Under the Home

Third-Fourth Grade Math Workbook

Ray's New Intellectual Arithmetic (Lessons 1-19)
Ray's New Practical Arithmetic (Articles 1-82)
Ray's New Test Examples in Arithmetic (Articles 1-82)

Learn from the Masters

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LESSON 1

Name _____

PRACTICAL ARTICLE 1

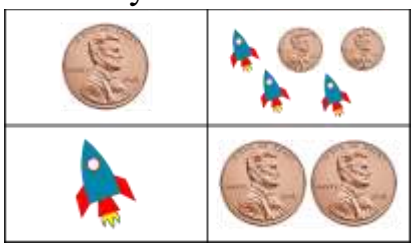
Day of the Week _____

OBJECTIVES

- Identify units and numbers
- Express numbers by both words and characters
- Distinguish between Arabic and Roman notation

Directions: Children complete the following problems after studying the associated lesson.

1. Circle the boxes that contain a unit. Why don't the other boxes contain a unit?

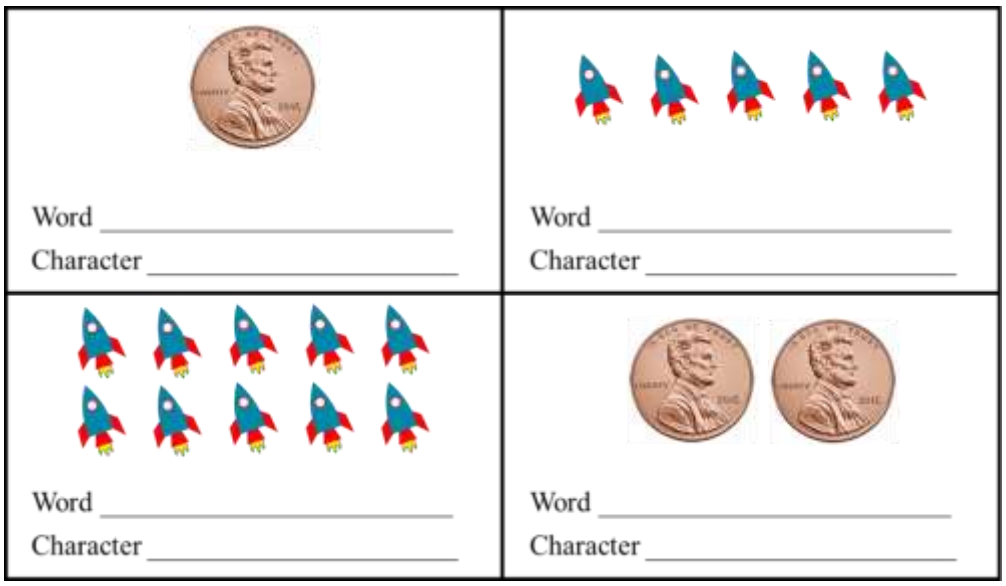


2. Write the **number** of the following:

a. 5 units _____ b. 2 apples _____

c. Ten units _____ d. Seven pencils _____

3. Write the following numbers by words and characters:



4. What are the two ways to express numbers?

5. Study the table showing the Roman and Arabic Systems of Notation for numbers one through ten. Convert the Arabic symbols (1-10) to their corresponding Roman symbols (I-X).

Roman	Arabic
I	1
II	2
III	3
IV	4
V	5
VI	6
VII	7
VIII	8
IX	9
X	10

a. 1 _____ b. 10 _____

c. 4 _____ d. 7 _____

e. 5 _____ f. 9 _____

g. 6 _____ h. 3 _____

LESSON 2

Name _____

PRACTICAL ARTICLE 2 Day of the Week _____

OBJECTIVES

- Use the figures of Arabic System of Notation to express numbers
- Understand that Arabic System of Notation is also called the *Decimal System*

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Draw the ten figures of Arabic Notation below.

2. Draw the ten characters of the Decimal System below.

LESSON 3

Name _____

PRACTICAL ARTICLE 3

Day of the Week _____

OBJECTIVES

- Write characters expressing the number of units of something
- Understand that zero, naught, and cipher all refer to the character 0
- Identify the units' place of a number (figure farthest right in a number)

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Write the character expressing the following:

a. One unit and one more _____

b. Two units and one more _____

c. Three units and one more _____

d. Four units and one more_____

e. Five units and one more _____

f. Six units and one more _____

g. Seven units and one more _____

h. Eight units and one more _____

i. Nine units and one more _____

j. Zero _____

k. Cipher_____

l. Naught_____

2. Circle the ***units of the first order*** of the following numbers:

a. 2	**b. 5**	**c. 14**
d. 28	**e. 53**	**f. 116**
g. 202	**h. 5001**	**i. 142309**

LESSON 4

Name _____

PRACTICAL ARTICLE 4 Day of the Week _____

OBJECTIVES

- Write characters expressing the number of tens of something
- Identify the tens' place of a number (second place from the right)

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Write the characters expressing the following:

a. One ten _____ b. Two tens _____

c. Three tens _____ d. Four tens _____

e. Five tens _____ f. Six tens _____

g. Seven tens _____ h. Eight tens _____

i. Nine tens _____

2. Circle the ***units of the second order*** or figure in the ***tens' place*** of the following numbers:

a. 24	**b. 58**	**c. 14**
d. 28	**e. 53**	**f. 156**
g. 202	**h. 5021**	**i. 142379**

LESSON 5

Name _____

PRACTICAL ARTICLE 5

Day of the Week _____

OBJECTIVES

- Write characters expressing the number of tens and units of something
- Given a word representation of a number between 1-100, write the character representation
- Given a character representation of a number between 1-100, read the number aloud

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Write the characters expressing the following:

a. One ten and one unit _____ b. One ten and two units _____

c. One ten and three units _____ d. One ten and four units _____

e. One ten and five units _____ f. One ten and six units _____

g. One ten and seven units _____ h. One ten and eight units _____

i. One ten and nine units _____ j. Two tens and one unit _____

k. Two tens and two units _____

2. Write characters expressing the following numbers:

a. twenty-three _____ b. twenty-four_____ c. twenty-five_____

d. twenty-six _____ e. twenty-seven_____ f. twenty-eight_____

g. twenty-nine _____

h. thirty-seven _____ i. forty-two _____ j. fifty-six _____

k. sixty-nine _____ l. seventy-three_____ m. eighty-seven_____

n. ninety-four _____

o. eighty-three _____ p. forty-five _____ q. ninety-nine_____

r. fifty-one _____ s. thirty-six _____ t. seventy-eight_____

u. sixty-two _____

v. fifty-five _____ w. ninety-three_____ x. eighty-one_____

y. sixty-seven _____ z. forty-nine _____ aa. seventy-four_____

bb. thirty-eight _____

cc. seventy-six _____ dd. forty-four_____ ee. eighty-two_____

ff. fifty-seven _____ gg. thirty-five_____ hh. ninety-one_____

ii. sixty-three _____

3. Read aloud and write out (e.g. 65 => sixty-five) the following numbers:

71	32	53	84	65	46	97
58	34	79	66	41	85	92
75	43	88	61	59	33	95
39	72	54	86	47	98	64
68	77	31	89	52	96	48

LESSON 6

Name _____

PRACTICAL ARTICLE 6

Day of the Week _____

OBJECTIVES

- Write characters expressing the number of hundreds of something
- Identify the hundreds' place of a number (third place from the right)

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Write the characters expressing the following:

   a. One hundred _____ b. Two hundred _____

   c. Three hundred _____ d. Four hundred _____

   e. Five hundred _____ f. Six hundred _____

   g. Seven hundred _____ h. Eight hundred _____

   i. Nine hundred _____

2. Circle the ***units of the third order*** or figure in the ***hundreds' place*** of the following numbers:

a. 243	**b. 582**	**c. 141**
d. 286	**e. 533**	**f. 116**
g. 202	**h. 5701**	**i. 142309**

LESSON 7

Name _____

PRACTICAL ARTICLE 7

Day of the Week _____

OBJECTIVES

- Write characters expressing the number of hundreds, tens, units of something
- Given a word representation of a number between 1-1000, write the character representation
- Given a character representation of a number between 1-1000, read the number aloud

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Write the characters expressing the following:

   a. One hundred and one unit _____

   b. One hundred and one ten _____

   c. One hundred and one ten and one unit _____

   d. One hundred and two tens _____

   e. One hundred and two tens and five units _____

2. Write characters expressing the following numbers:

   a. one hundred and thirty _____ b. one hundred and forty_____

   c. one hundred and fifty _____ d. one hundred and sixty_____

   e. one hundred and seventy _____ f. one hundred and eighty_____

   g. one hundred and twenty-three_____ h. four hundred and fifty-six_____

   i. seven hundred and eighty-nine_____

   j. one hundred and forty-seven _____

   k. two hundred and fifty-eight _____

   l. three hundred and sixty-nine _____

m. one hundred and twenty-two_____ n. three hundred and forty-five _____

o. six hundred and seventy-eight_____ p. two hundred and thirty-four _____

q. five hundred and sixty-seven_____ r. eight hundred and ninety _____

s. four hundred and fifty-three_____ t. seven hundred and eight-six _____

u. nine hundred and twelve _____ v. two hundred and thirty _____

w. four hundred and fifty _____ x. six hundred and seventy _____

y. one hundred and fifty-three_____ z. four hundred and eighty-six _____

aa. seven hundred and twenty-nine_____ bb. one hundred and three _____

cc. four hundred and six_____ dd. seven hundred and nine _____

3. Read aloud and write out (e.g. 165 => one hundred and sixty-five) the following numbers:

a. 210	b. 320	c. 430	d. 540	d. 650	e. 760
f. 213	g. 546	h. 879	i. 417	j. 528	k. 639
l. 201	m. 435	n. 768	o. 324	p. 657	q. 980
r. 543	s. 876	t. 192	u. 329	v. 548	w. 765
x. 513	y. 846	z. 279	aa. 301	bb. 604	cc. 907

LESSON 8

Name _____

PRACTICAL ARTICLE 8

Day of the Week _____

OBJECTIVES

- Write characters expressing the number of thousands, hundreds, tens, units of something
- Given a word representation of a number between 1-10000, write the character representation
- Given a character representation of a number between 1-10000, read the number aloud

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Write the characters expressing the following:

a. One thousand and one unit _____

b. One thousand and one ten _____

c. One thousand and one hundred _____

d. One thousand and one hundred and one ten _____

e. One thousand and one hundred and one ten and one unit _____

f. Five thousands and three hundreds and two tens and seven units _____

2. Write characters expressing the following numbers:

a. one thousand and thirty _____ b. one thousand and forty _____

c. one thousand and fifty _____ d. one thousand and sixty _____

e. one thousand and seventy _____ f. one thousand and eighty _____

g. one thousand and twenty-three_____ h. four thousand and fifty-six _____

i. seven thousand and eighty-nine_____ j. one thousand and forty-seven _____

k. two thousand and fifty-eight_____ l. three thousand and sixty-nine _____

m. one thousand and one hundred_____ n. three thousand and one hundred _____

o. two thousand and five hundred_____ p. nine thousand and three hundred _____

q. eight thousand and two hundred_____ r. seven thousand and one hundred _____

s. one thousand four hundred and fifty-three _____

t. three thousand nine hundred and twelve _____

u. two thousand four hundred and fifty _____

v. eight thousand one hundred and fifty-three _____

w. nine thousand seven hundred and twenty-nine_____

x. seven thousand four hundred and six _____

3. Read aloud and write out (e.g. 1165 => one thousand one hundred and sixty-five) the following numbers:

a. 1210	b. 2320	c. 3430	d. 4540	e. 5650	f. 6760
g. 7213	h. 8546	i. 9000	j. 9417	k. 8528	l. 7639
m. 6201	n. 5435	o. 4768	p. 3324	q. 2657	r. 1980
s. 1543	t. 2876	u. 3101	v. 4329	w. 5548	x. 6765
y. 7513	z. 8846	aa. 9279	bb. 8301	cc. 7604	dd. 6900

4. Write the order (1^{st}-9^{th}) of the following:

a. Thousands (1000s) _____ b. Hundred Thousands (100000s)_____

c. Millions (1000000s) _____ d. Hundreds(100s) _____

e. Units (1s) _____ f. Ten Thousands (10000s) _____

g. Tens (10s) _____ h. Hundred Millions (100000000) _____

i. Ten Millions (10000000) _____

LESSON 9

Name _____

PRACTICAL ARTICLE 9

Day of the Week _____

OBJECTIVES

- Differentiate between even and odd numbers
- Determine the *value* of a figure, and what happens when figures are moved to the left or to the right

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Mark the numbers as either 'E' for *even* or 'O' for *odd*.

   a. 21_____ b. 32_____ c. 60_____

   d. 435_____ e. 766_____ f. 893_____

   g. 1000_____ h. 1003_____ i. 5005_____

   j. twenty-three_____ k. twenty-four_____ l. twenty-five_____

   m. four hundred and fifty-three_____ n. seven hundred and eight-six_____

   o. seven thousand and eighty-nine_____ p. one thousand and forty-seven_____

2. Write the *value* (number of units) of the bolded, enlarged figures (e.g. in **432** the value of **4** is 400, **3** is 30, and **2** is 2):

   a. 1**3**_____ b. **8**2_____

   c. **4**33_____ d. **5**74_____

   e. **9**112_____ f. **2**0172_____

   g. **5**3123113_____ h. 5**9**4172_____

3. Write the value of the following numbers if you move them one place to the left (add a zero).

   a. 1_____ b. 60_____ c. 400_____ d. 8000_____

4. Write the value of the following numbers if you move them one place to the right (remove a zero).

   a. 10_____ b. 60_____ c. 400_____ d. 8000_____

LESSON 10

Name _____

PRACTICAL ARTICLE 10 Day of the Week _____

OBJECTIVES

- List the first five periods from the lesson in order, from units to trillion
- Understand that each period consists of units, tens, and hundreds

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. List the first five periods from smallest to largest.

2. List the period that contains each of the following:

a. Hundred billions _____

b. Ten trillions _____

c. Units _____

d. Millions _____

e. Ten billions _____

f. Hundreds _____

g. Ten thousands _____

h. Hundred millions _____

i. Tens _____

j. Hundred thousands _____

3. List whether each group consists of the units, the tens, or the hundreds of its period:

a. Hundred billions _____

b. Ten trillions _____

c. Hundred millions _____

d. Millions _____

e. Tens _____

f. Hundreds _____

g. Ten thousands _____

LESSON 11

Name _____

PRACTICAL ARTICLE 11 Day of the Week _____

OBJECTIVE

- Write large numbers, using commas to group them into periods

Directions: Instructors read the lesson aloud to children, and write out the example. Children write the following numbers, using commas to separate them into periods.

1. two thousand _____

2. thirty thousand _____

3. four hundred thousand _____

4. five million _____

5. sixty million _____

6. seven hundred million _____

7. eight billion _____

8. ninety billion _____

9. one hundred billion _____

10. one thousand two hundred _____

11. three thousand four hundred and fifty _____

12. six thousand seven hundred and eight-nine _____

13. twelve thousand three hundred and forty-five _____

14. six hundred and seventy-eight thousand nine hundred and twelve

_____

15. one million three hundred and fifty-seven thousand nine hundred and twenty-four

_____

16. sixty-eight million one hundred and forty-three thousand seven hundred and ninety-two

_____

17. one thousand and one _____

18. one thousand and ten _____

19. one thousand one hundred _____

20. one thousand one hundred and one _____

21. one thousand one hundred and ten _____

22. one thousand one hundred and eleven _____

23. two thousand and three _____

24. four thousand and fifty _____

25. forty-five thousand and twenty-six _____

26. eighty thousand two hundred and one _____

27. four hundred and ten thousand two hundred and five

_____

28. three million seventy-five thousand five hundred and nine

_____

29. forty-five million eighty-three thousand and twenty-six

_____

30. nine hundred and nine million ninety thousand _____

31. seven hundred million ten thousand and two _____

32. forty billion two hundred thousand and five _____

33. seven hundred and twenty-six billion fifty million and one thousand two hundred and forty-three _____

34. eighty billion seven hundred and three million five hundred and four

_____

LESSON 12

Name _____

TEST ARTICLE 11 Day of the Week _____

OBJECTIVE

- Review or test students on Article 11 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

Children write the following numbers. Use commas to divide numbers into periods for readability.

1. nineteen _____ ninety_____ ninety-nine _____

2. five hundred and two _____

3. three hundred and sixty-seven _____

4. nine hundred _____ nine hundred and twenty _____

5. four thousand and seven _____

6. four thousand and seventy _____

7. four thousand and seventy-seven _____

8. nine thousand six hundred and five _____

9. eight thousand four hundred and twenty _____

10. seven thousand six hundred and fifty-four _____

11. ten thousand _____

12. ten thousand and ten _____

13. forty thousand and seventeen _____

14. fourteen thousand and seventy _____

15. eighty-seven thousand _____

16. twelve thousand and forty-one _____

17. ninety-one thousand two hundred _____

18. sixty thousand three hundred and forty _____

19. sixteen thousand three hundred and fourteen _____

20. fifty-five thousand and fifty-five _____

21. ninety thousand nine hundred and one _____

22. forty-eight thousand and six _____

23. eleven thousand seven hundred _____

24. thirty thousand and thirty _____

25. twenty-one thousand one hundred and seven _____

26. eighty thousand and eight _____

27. sixty-nine thousand four hundred and seventy _____

28. seventy thousand and two hundred and eighty _____

29. fifty thousand six hundred _____

30. nineteen thousand nine hundred and twenty-three _____

31. two hundred and twenty-five thousand seven hundred and ninety-one

_____

32. two hundred and five thousand seven hundred and one

_____

33. six hundred and eight thousand _____

34. three hundred thousand and eighty _____

35. eight hundred and four thousand nine hundred _____

36. one hundred and nine thousand _____

37. four hundred thousand nine hundred _____

38. five hundred thousand and thirty-one _____

39. seven hundred and five thousand five hundred and seven

_____

40. four hundred thousand and ninety _____

41. two hundred thousand two hundred and two _____

42. nine hundred and eleven thousand and twenty _____

43. one hundred and eighty-seven thousand and thirty _____

44. one hundred and eighty-seven thousand and three _____

45. six hundred thousand three hundred and twenty _____

46. one hundred and two thousand and three _____

47. nine hundred and eight-seven thousand _____

48. eight hundred thousand and one _____

49. seven hundred and seventy thousand seven hundred

_____

50. six hundred and sixty thousand and sixty _____

51. four hundred thousand one hundred and fifty-seven_____

52. seven million seven hundred thousand seven hundred

_____

53. nine million four hundred thousand _____

54. eight million five hundred _____

55. twenty million two hundred and twenty thousand five hundred

_____

56. sixty million nine hundred and five thousand _____

57. sixty million nine hundred thousand and five _____

58. four hundred million and ninety _____

59. forty million and two hundred _____

60. thirty-eight million five thousand and sixty _____

61. twenty million two thousand two hundred _____

62. ninety-nine million and nine _____

63. fifteen million fifty thousand and fifteen _____

64. fifty million fifteen thousand and fifty _____

65. seventy million and four _____

66. thirty-four million and fifty-six thousand _____

67. fifty-six million and thirty-four _____

68. one hundred and forty million two thousand eight hundred

_____

69. one hundred and forty million two thousand eight hundred

_____

70. two hundred million five thousand and sixty _____

71. five hundred million and eight _____

72. six billion six hundred million seven thousand and thirty

_____

73. forty billion seven hundred thousand two hundred and three

_____

74. one hundred billion nine hundred and thirty-three _____

75. thirty trillion forty billion fifty million and sixty _____

76. sixty nine billion and four thousand _____

77. eighty billion and ninety _____

78. sixteen trillion six hundred million _____

79. forty trillion two million and three hundred _____

80. thirteen trillion two hundred billion _____

81. forty trillion fourteen thousand _____

In the following examples, TH *stands for thousand,* M *for million,* B *for billion and* TR *for trillion.*

82. Write 69 B 43 M 319 _____

83. Write 41 TR 17 TH and 60 _____

84. Write 48 B 90 TH _____

85. Write 300 TR 200 M and 94 _____

86. Write 175 B 13 M 299 _____

87. Write 99 TR 308 _____

88. Write 167 TR 44 M 273 TH _____

89. Write 409 TR 93 M and 7 _____

90. Write 900 TR 9 TH and 900 _____

91. Write 375 TR 2 M _____

LESSON 13

Name _____

PRACTICAL ARTICLE 12 Day of the Week _____

OBJECTIVE

- Read numbers in the Arabic System of Notation, from units to trillions

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. List the first five periods from smallest to largest.

2. Add commas to the following numbers. Next, read each of the numbers aloud:

a. 41582	763491
b. 2519834	375486921
c. 4923176358	37584216974
d. 432685729145	6253971438267
e. 1300	2540
f. 6070	8009
g. 13200	1005
h. 682300	8600050
i. 3040	50004
j. 704208	7085
k. 62001	400009
l. 2102102	9001003
m. 130670921	6900702003
n. 23004090701	9420163070
o. 570000010326049	200103478511992485
p. 457630000020108000507	8000820020802008

LESSON 14

Name _____

TEST ARTICLE 16

Day of the Week _____

OBJECTIVE

- Review or test students on Article 12 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

Use commas to divide the numbers into periods and recite aloud.

1. 23	4000	10000	524358	7564219
2. 223	2309	34000	409126	6000628
3. 500	6008	57900	600888	32400070
4. 809	8054	74210	347000	136629000
5. 890	3456	97526	200014	8029504962
6. 731	5790	20064	870900	90900009
7. 713	2090	43009	166060	4800080008
8. 444	9307	69200	900089	77000009452
9. 440	7114	80005	763005	526300004
10. 506	4017	79046	225200	30300013003
11. 310	8006	30749	840096	9243000000
12. 687	3680	68802	400002	16700054
13. 1600	9502	40200	680400	66055000500
14. 1750	4008	50060	304006	300000936420

15.	1904	6789	10208	560230	840005400
16.	2378	5200	29847	708020	67760800008
17.	3095	7440	91006	940094	10101010101
18.	5120	1005	80770	709000	40005000600
19.	8700	8060	65030	120502	897065403210
20.	7040	6463	60007	402029	19901990199
21.	4001	2008	48016	290000	678900000257
22.	6802	5082	89119	607080	8040050006
23.	2094	1240	53647	550406	900000700001
24.	9530	3402	10203	803590	61100065084

25.	456780993	26375	13700687319
26.	7654019000	123456789	378483852468
27.	69952468308	87654321	22670000007000
28.	2600800430	3000192	6200900004
29.	83004251007	40090283	100010001018
30.	10083682645	29700370	93724561427
31.	967013750	100560460	5720000902
32.	380080545802	406000557	2237000888005
33.	72000974094	73990646	432666000456
34.	80000303080	1462739	432666000456

35.	954270738900	800002824	8076530900700
36.	3000160069	99033910	74040850770
37.	76544599823	123774105	199055805630
38.	500000922356	60005298	9365704004060

LESSON 15

Name _____

PRACTICAL ARTICLE 13 Day of the Week _____

OBJECTIVE

- Write numbers in the Roman System of Notation

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. List the number each Roman letter expresses:

a. I _____ C _____

b. V _____ D _____

c. X _____ M _____

d. L _____

2. List the number each group of Roman letters expresses:

a. II _____ III _____

b. XX _____ XXX _____

c. CC _____ CCC _____

d. CCCC _____

3. List the number each group of Roman letters expresses:

a. IV _____ IX _____

b. XL _____ XC _____

4. Write the in the Roman Notation numbers from one to twenty:

5. Write the in the Roman Notation numbers from twenty to thirty:

6. Write the in the Roman Notation the numbers listed below:

a. 30 _____ 40 _____

b. 50 _____ 60 _____

c. 70 _____ 80 _____

d. 90 _____ 57 _____

e. 29 _____ 61 _____

f. 38 _____ 46 _____

g. 72 _____ 93 _____

h. 100 _____ 101 _____

i. 106 _____ 117 _____

j. 199 _____ 246 _____

k. 309 _____ 482 _____

(Write the in the Roman Notation the numbers listed continued….)

l. 527 _____ 693 _____

m. 734 _____ 859 _____

n. 975 _____ 1001 _____

o. 1010 _____ 1048 _____

p. 1119 _____ 1285 _____

q. 1326 _____ 1492 _____

r. 1776 _____ 1861 _____

s. 1900 _____

LESSON 16

Name _____

PRACTICAL ARTICLE 14 Day of the Week _____

OBJECTIVE

- Define and recognize instances of the following: integer, abstract number, concrete number, denomination, simple number, and compound number
- List the four primary operations of Arithmetic

Directions: Instructors read the lesson aloud to children. Children complete the following problems.

1. Circle the numbers that are ***integers***.

5	7	10.23212323	¼
1003	5.30403234	¾	303

2. Cross out (write an 'X' on) the numbers that are ***abstract***. Circle the numbers that are concrete.

5	20	5 apples	20 pounds
300 inches	40 feet	20 meters	9999

3. Circle the numbers that are ***compound***.

5 quarts 1 pint	100	22 inches	20
300 inches	40 feet 3 inches	20 meters	9999 pecks 1 quart

4. Circle the ***four primary operations of Arithmetic***

Addition	Calculating	Factorization	Subtraction
Rounding	Square Roots	Division	Multiplication

5. Write the symbols of the ***four primary operations of Arithmetic***

Addition _____ Subtraction _____

Division _____ Multiplication_____

LESSON 17

Name _____

INTELLECTUAL LESSON 1 Day of the Week _____

OBJECTIVES

- Read and solve word problems
- Solve addition problems of up to 10

Directions: Children complete the following problems.

1. James had 1 apple, and his brother gave him 1 more: how many had he then? _____

2. Henry had 2 cents, and his sister gave him 1 cent more: how many had he in all? _____

3. A boy had 1 marble, and found 3 marbles more: how many did he then have? _____

4. Thomas had 4 cents, and his mother gave him 1 cent more: how much had Thomas altogether? _____

5. Samuel had 2 cakes, and his father gave him 2 more: how many did he then have? _____

6. How many are 3 oranges and 2 oranges? _____

7. James had 3 apples, and his brother gave him 3 more: how many apples had James then? _____

8. John had 4 plums, and his sister gave him 2 more: how many did he then have? _____

9. Daniel had 3 cents; his brother gave him 2 cents, and his sister 1 cent: how many did he then have? _____

10. Mary had 4 pears, and her brother gave her 3 more: how many did she then have? _____

11. How many fingers have you on one hand? How many on both hands? _____

12. Ida had 4 cents; her mother gave her 3 cents more at one time, and 1 cent at another: how many cents had she altogether? _____

13. Three cakes and 3 cakes and 2 cakes are how many cakes? _____

14. Four cents and 3 cents and 2 cents are how many cents? _____

15. Five oranges and 2 oranges and 1 orange are how many oranges? _____

16. Henry had 5 cents, and his mother gave him 2 more at one time, and 3 at another: how many did he then have? _____

17. Five boys and 4 hoys and 1 boy are how many boys? _____

18. Oliver has 5 dollars; Henry, 3 dollars; and Samuel, 1 dollar: how many dollars have all together? _____

19. Three peaches and 6 peaches and 1 peach are how many peaches? _____

20. A lady paid 1 dollar for gloves, 3 dollars for a shawl, and 3 dollars for a dress: how much did she spend? _____

21. Four cents and 3 cents and 3 cents and 1 cent are how many cents? _____

22. If a man buys 6 pounds of sugar at one time, 2 at another, and 2 at another, how much does he buy? _____

23. Seven oranges and 1 orange and 2 oranges are how many? _____

24. George has 3 cents, his sister 2 cents, and his brother 2 cents: if all the money were given to George, how much would he have? _____

25. How many are 4 and 4 and 2? _____

26. James has 4 cents, Joseph 2, and John 2: how many cents have they all? _____

27. What is the sign of addition (plus)? _____

28. What is the sign of equality (equals)? _____

LESSON 18

Name _____

INTELLECTUAL LESSON 2

Day of the Week _____

OBJECTIVES

- Read and solve word problems
- Solve addition problems of up to 20

Directions: Solve the following problems.

1.

a. One and 1 are how many? a. _____
b. 1 and 2? b. _____
c. 3 and 1? c. _____
d. 4 and 1? d. _____
e. 1 and 3? e. _____
f. 1 and 5? f. _____
g. 1 and 6? g. _____
h. 6 and 1? h. _____
i. 1 and 7? i. _____
j. 8 and 1? j. _____
k. 9 and 1? k. _____
l. 1 and 8? l. _____

2.

a. Two and 4 and 1 are how many? a. _____
b. 6 and 2 and 3? b. _____
c. 4 and 1 and 4? c. _____

3.

a. Five and 2 are how many? a. _____
b. 7 and 3? b. _____
c. 2 and 6 and 1? c. _____
d. 2 and 1 and 2? d. _____
e. 3 and 5? e. _____
f. 5 and 4? f. _____

4.

a. Nine and 2 are how many? a. _____
b. 6 and 1 and 1? b. _____
c. 6 and 3? c. _____
d. 6 and 4? d. _____
e. 7 and 1 and 3? e. _____
f. 1 and 2 and 8? f. _____
g. 1 and 3 and 8? g. _____

5.

a. Eight and 2 are how many? a. _____
b. 8 and 3? b. _____
c. 10 and 2 and 1? c. _____
d. l and 4 and 6? d. _____
e. 8 and 4? e. _____
f. 7 and 4? f. _____
g. 6 and 7? g. _____
h. 7 and 1 and 4? h. _____
i. 1 and 8 and 2 and 2? i. _____

6.

a. Ten and 2 are how many? a. _____
b. 9 and 3? b. _____
c. 9 and 1 and 2? c. _____
d. 9 and 1 and 3? d. _____
e. 5 and 6? e. _____
f. 1 and 4 and 8? f. _____
g. 2 and 4 and 6? g. _____
h. 3 and 4 and 5? h. _____
i. 4 and 7 and 2? i. _____
j. 5 and 4 and 8? j. _____

7.

a. How many are 1 and 9? a. _____
b. 10 and 3? b. _____
c. 4 and 9? c. _____
d. 7 and 1? d. _____
e. 5 and 7? e. _____
f. 9 and 4? f. _____
g. 2 and 12? g. _____

h. 3 and 11? h. _____

i. Give two numbers which, added together, make 10? i. _____

8. Begin at 4, and add 2 each time up to 16.

__4__ _____ _____ _____ _____ _____ __16_

9. Begin at 1, and add 3 each time up to 13.

__1__ _____ _____ _____ __13_

10.

a. Mention two numbers which, added together, will make 12? a. _____

b. Three numbers? b. _____

11. Seven and 5 and 2 are how many? _____

12. Seven and 3 and 4 are how many? _____

13. If 3 be added to 3, and that sum to 5, what is the result? _____

14. If you add 3 to the sum of 3 and 1, and then add 7 more, what will be the amount? _____

15. I have in one basket 8 dozen eggs, in another 4 dozen, in another 3 dozen: how many dozen eggs in all? _____

16. A little girl bought two yards of tape for 3 cents, some pins for 5 cents, and received 2 cents in change: how many cents had she at first? _____

17. Two and 1 more, and 3 and 4 more, are together how many? _____

18.

a. One and 3 and 4 and 5 are how many? a. _____

b. 5 and 1 and 3 and 4? b. _____

19. A boy bought 3 cents worth of marbles, and 2 cents worth of candy, and received 5 cents in change: how much money had he? _____

20. I bought three hams for 8 dollars, and ten bushels of apples for 3 dollars: how much did I spend? _____

21. Oliver has 4 cents in one hand, 3 in the other, and 4 in his pocket: how many cents has he? _____

22. A lady made two coats from 8 yards of cloth, two vests from 2 yards, and two pairs of pants from 6 yards: how many yards of cloth did she use in all? _____

23. A grocer sold a pound of rice for 5 cents, a paper of matches for 3 cents, and a box of mustard for 10 cents: how much did he receive for all? _____

24.

    a. How many are 9 and 3 and 2? a. _____
    b. 4 and 6 and 8? b. _____
    c. 10 and 7 and 3? c. _____

25. If I have 10 cents in one pocket, 5 cents in another, and 3 cents in each hand, how much have I altogether? _____

LESSON 19

Name _____

PRACTICAL ARTICLE 15

Day of the Week _____

OBJECTIVES

- Solve addition word problems up to 100

Directions: Solve the following problems.

1. If you have 2 cents and find 3 cents, how many will you then have? _____

2. I spent 12 cents for a slate, and 5 cents for a copy book: how many cents did I spend? _____

3. John gave 6 cents for an orange, 7 cents for pencils, and 9 cents for a ball: how many cents did all cost? _____

4. Joseph gave 5 cents for a daily paper, 10 cents for a weekly paper, 25 cents for a monthly magazine, 30 cents for a book of poems, and 40 cents for a novel: how much did he spend? _____

LESSON 20

Name _____

PRACTICAL ARTICLE 16

Day of the Week _____

OBJECTIVES

- Define addition, sum, amount, plus sign (+), and equality sign (=)
- Solve addition equations up to 18

Directions: Solve the following problems.

2 + 1 = _____	3 + 1 = _____	4 + 1 = _____
2 + 2 = _____	3 + 2 = _____	4 + 2 = _____
2 + 3 = _____	3 + 3 = _____	4 + 3 = _____
2 + 4 = _____	3 + 4 = _____	4 + 4 = _____
2 + 5 = _____	3 + 5 = _____	4 + 5 = _____
2 + 6 = _____	3 + 6 = _____	4 + 6 = _____
2 + 7 = _____	3 + 7 = _____	4 + 7 = _____
2 + 8 = _____	3 + 8 = _____	4 + 8 = _____
2 + 9 = _____	3 + 9 = _____	4 + 9 = _____
5 + 1 = _____	6 + 1 = _____	7 + 1 = _____
5 + 2 = _____	6 + 2 = _____	7 + 2 = _____
5 + 3 = _____	6 + 3 = _____	7 + 3 = _____
5 + 4 = _____	6 + 4 = _____	7 + 4 = _____
5 + 5 = _____	6 + 5 = _____	7 + 5 = _____
5 + 6 = _____	6 + 6 = _____	7 + 6 = _____
5 + 7 = _____	6 + 7 = _____	7 + 7 = _____
5 + 8 = _____	6 + 8 = _____	7 + 8 = _____
5 + 9 = _____	6 + 9 = _____	7 + 9 = _____
8 + 1 = _____	9 + 1 = _____	
8 + 2 = _____	9 + 2 = _____	
8 + 3 = _____	9 + 3 = _____	
8 + 4 = _____	9 + 4 = _____	
8 + 5 = _____	9 + 5 = _____	
8 + 6 = _____	9 + 6 = _____	
8 + 7 = _____	9 + 7 = _____	
8 + 8 = _____	9 + 8 = _____	
8 + 9 = _____	9 + 9 = _____	

LESSON 21

Name _____

INTELLECTUAL LESSON 3

Day of the Week _____

OBJECTIVES

- Read and solve word problems
- Solve addition problems of up to 22

Directions: Recite each problem aloud as you solve it.

2 + 1 = _____	3 + 1 = _____	4 + 1 = _____
2 + 2 = _____	3 + 2 = _____	4 + 2 = _____
2 + 3 = _____	3 + 3 = _____	4 + 3 = _____
2 + 4 = _____	3 + 4 = _____	4 + 4 = _____
2 + 5 = _____	3 + 5 = _____	4 + 5 = _____
2 + 6 = _____	3 + 6 = _____	4 + 6 = _____
2 + 7 = _____	3 + 7 = _____	4 + 7 = _____
2 + 8 = _____	3 + 8 = _____	4 + 8 = _____
2 + 9 = _____	3 + 9 = _____	4 + 9 = _____
2 + 10 = _____	3 + 10 = _____	4 + 10 = _____
2 + 11 = _____	3 + 11 = _____	4 + 11 = _____
2 + 12 = _____	3 + 12 = _____	4 + 12 = _____

5 + 1 = _____	6 + 1 = _____	7 + 1 = _____
5 + 2 = _____	6 + 2 = _____	7 + 2 = _____
5 + 3 = _____	6 + 3 = _____	7 + 3 = _____
5 + 4 = _____	6 + 4 = _____	7 + 4 = _____
5 + 5 = _____	6 + 5 = _____	7 + 5 = _____
5 + 6 = _____	6 + 6 = _____	7 + 6 = _____
5 + 7 = _____	6 + 7 = _____	7 + 7 = _____
5 + 8 = _____	6 + 8 = _____	7 + 8 = _____
5 + 9 = _____	6 + 9 = _____	7 + 9 = _____
5 + 10 = _____	6 + 10 = _____	7 +10 = _____
5 + 11 = _____	6 + 11 = _____	7 + 11 = _____
5 + 12 = _____	6 + 12 = _____	7 + 12 = _____

8 + 1 = _____	9 + 1 = _____	10 + 1 = _____
8 + 2 = _____	9 + 2 = _____	10 + 2 = _____
8 + 3 = _____	9 + 3 = _____	10 + 3 = _____
8 + 4 = _____	9 + 4 = _____	10 + 4 = _____
8 + 5 = _____	9 + 5 = _____	10 + 5 = _____
8 + 6 = _____	9 + 6 = _____	10 + 6 = _____
8 + 7 = _____	9 + 7 = _____	10 + 7 = _____
8 + 8 = _____	9 + 8 = _____	10 + 8 = _____
8 + 9 = _____	9 + 9 = _____	10 + 9 = _____
8 +10 = _____	9 + 10 = _____	10 + 10 = _____
8 + 11 = _____	9 + 11 = _____	10 + 11 = _____
8 + 12 = _____	9 + 12 = _____	10 + 12 = _____

LESSON 22

Name _____

INTELLECTUAL LESSON 4

Day of the Week _____

OBJECTIVES

- Solve addition problems of up to 100

Directions: Solve the following problems.

1.
   a. Three and 8 are how many? a. _____
   b. 6 and 9? b. _____

2.
   a. Four and 4 are how many? a. _____
   b. 4 and 11? b. _____
   c. 4 and 12? c. _____

3.
   a. Five and 9 are how many? a. _____
   b. 5 and 12? b. _____
   c. 5 and 10? c. _____
   d. 5 and 8? d. _____
   e. 5 and 11? e. _____
   f. 6 and 6? f. _____
   g. 6 and 8? g. _____

4.
   a. Seven and 7 are how many? a. _____
   b. 7 and 10? b. _____
   c. 7 and 8? c. _____
   d. 7 and 12? d. _____
   e. 7 and 9? e. _____
   f. 7 and 11? f. _____
   g. 8 and 8? g. _____

5.

a. Nine and 11 are how many?	a. _____
b. 9 and 9?	b. _____
c. 9 and 12?	c. _____
d. 9 and 10?	d. _____
e. 9 and 8?	e. _____

6.

a. Ten and 6 are how many?	a. _____
b. 10 and 8?	b. _____
c. 10 and 10?	c. _____
d. 10 and 12?	d. _____
e. 10 and 11?	e. _____

7.

a. Eleven and 2 are how many?	a. _____
b. 11 and 4?	b. _____
c. 11 and 6?	c. _____
d. 11 and 8?	d. _____
e. 11 and 3?	e. _____
f. 11 and 11?	f. _____

8.

a. Twelve and 3 are how many?	a. _____
b. 12 and 4?	b. _____
c. 12 and 6?	c. _____
d. 12 and 8?	d. _____
e. 12 and 11?	e. _____
f. 12 and 12?	f. _____

9.

a. Thirteen and 4 are how many?	1. _____
b. 13 and 6?	2. _____
c. 13 and 5?	3. _____
d. 13 and 7?	4. _____
e. 13 and 9?	5. _____
f. 13 and 10?	6. _____
g. 13 and 8?	7. _____
h. 13 and 11?	8. _____
i. 13 and 12?	9. _____

10.

a. Fourteen and four are how many?	a. _____
b. 14 and 6?	b. _____
c. 14 and 8?	c. _____
d. 14 and 5?	d. _____
e. 14 and 7?	e. _____
f. 14 and 10?	f. _____
g. 14 and 9?	g. _____
h. 14 and 11?	h. _____
i. 14 and 12?	i. _____

11.

a. Fifteen and 5 are how many?	a. _____
b. 15 and 7?	b. _____
c. 15 and 9?	c. _____
d. 15 and 4?	d. _____
e. 15 and 8?	e. _____
f. 15 and 10?	f. _____
g. 15 and 12?	g. _____
h. 15 and 11?	h. _____

12.

a. Sixteen and 4 are how many?	a. _____
b. 16 and 6?	b. _____
c. 16 and 8?	c. _____
d. 16 and 5?	d. _____
e. 16 and 7?	e. _____
f. 16 and 9?	f. _____
g. 16 and 11?	g. _____
h. 16 and 10?	h. _____
i. 16 and 12?	i. _____

13.

a. Seventeen and 6 are how many?	a. _____
b. 17 and 4?	b. _____
c. 17 and 7?	c. _____
d. 17 and 5?	d. _____
e. 17 and 9?	e. _____
f. 17 and 8?	f. _____
g. 17 and 10?	g. _____

h. 17 and 12? 1. _____
i. 17 and 11? 2. _____

14.

a. Eighteen and 10 are how many? a. _____
b. 18 and 4? b. _____
c. 18 and 7? c. _____
d. 18 and 5? d. _____
e. 18 and 8? e. _____
f. 18 and 6? f. _____
g. 18 and 9? g. _____
h. 18 and 11? h. _____
i. 18 and 12? i. _____

15.

a. Nineteen and 5 are how many? a. _____
b. 19 and 3? b. _____
c. 19 and 2? c. _____
d. 19 and 7? d. _____
e. 19 and 9? e. _____
f. 19 and 8? f. _____
g. 19 and 10? g. _____
h. 19 and 6? h. _____
i. 19 and 12? i. _____
j. 19 and 11? j. _____

16.

a. How many are 29 and 2? a. _____
b. 49 and 2? b. _____
c. 69 and 2? c. _____
d. 39 and 2? d. _____
e. 59 and 2? e. _____
f. 79 and 2? f. _____
g. 99 and 2? g. _____

17.

a. How many are 29 and 3? a. _____
b. 3 and 49? b. _____
c. 59 and 3? c. _____
d. 3 and 39? d. _____

e. 69 and 3? e. _____
f. 3 and 79? f. _____
g. 3 and 89? g. _____
h. 99 and 3? h. _____

18.

a. How many are 29 and 7? a. _____
b. 7 and 49? b. _____
c. 39 and 7? c. _____
d. 7 and 59? d. _____
e. 79 and 7? e. _____
f. 7 and 69? f. _____
g. 89 and 7? g. _____
h. 7 and 99? h. _____

19.

a. How many are 29 and 8? a. _____
b. 49 and 8? b. _____
c. 39 and 8? c. _____
d. 8 and 69? d. _____
e. 59 and 8? e. _____
f. 79 and 8? f. _____

20.

a. How many are 19 and 9? a. _____
b. 9 and 29? b. _____
c. 49 and 9? c. _____
d. 69 and 9? d. _____
e. 59 and 9? e. _____
f. 79 and 9? f. _____
g. 89 and 9? g. _____
h. 9 and 99? h. _____

21.

a. How many are 28 and 3? a. _____
b. 48 and 3? b. _____
c. 68 and 3? c. _____
d. 88 and 3? d. _____
e. 98 and 3? e. _____

22.

a. How many are 28 and 7? a. _____
b. 7 and 38? b. _____
c. 48 and 7? c. _____
d. 68 and 7? d. _____
e. 58 and 7? e. _____
f. 88 and 7? f. _____

23.

a. How many are 17 and 7? a. _____
b. 27 and 7? b. _____
c. 47 and 7? c. _____
d. 57 and 7? d. _____
e. 37 and 7? e. _____
f. 67 and 7? f. _____
g. 87 and 7? g. _____
h. 77 and 7? h. _____
i. 97 and 7? i. _____

24.

a. How many are 27 and 10? a. _____
b. 47 and 10? b. _____
c. 37 and 10? c. _____
d. 57 and 10? d. _____

25.

a. How many are 15 and 6? a. _____
b. 26 and 5? b. _____
c. 25 and 6? c. _____
d. 24 and 6? d. _____
e. 26 and 4? e. _____
f. 36 and 6? f. _____
g. 48 and 6? g. _____
h. 45 and 6? h. _____
i. 57 and 6? i. _____
j. 59 and 6? j. _____
k. 66 and 6? k. _____
l. 75 and 6? l. _____
m. 86 and 6? m. _____

26.

a. How many are 17 and 3?	a. _____
b. 23 and 8?	b. _____
c. 24 and 8?	c. _____
d. 33 and 8?	d. _____
e. 3 and 37?	e. _____
f. 8 and 43?	f. _____
g. 47 and 3?	g. _____
h. 7 and 53?	h. _____
i. 58 and 3?	i. _____
j. 67 and 3?	j. _____
k. 3 and 87?	k. _____
l. 97 and 3?	l. _____
m. 88 and 3?	m. _____

27.

a. How many are 9 and 24?	a. _____
b. 25 and 9?	b. _____
c. 9 and 34?	c. _____
d. 36 and 9?	d. _____
e. 9 and 44?	e. _____
f. 9 and 47?	f. _____
g. 54 and 9?	g. _____
h. 9 and 56?	h. _____
i. 9 and 64?	i. _____
j. 74 and 9?	j. _____
k. 9 and 72?	k. _____
l. 84 and 9?	l. _____
m. 86 and 9?	m. _____
n. 94 and 9?	n. _____

28.

a. How many are 6 and 21?	a. _____
b. 10 and 26?	b. _____
c. 46 and 10?	c. _____
d. 10 and 35?	d. _____
e. 10 and 55?	e. _____
f. 56 and 10?	f. _____
g. 10 and 66?	g. _____

h. 10 and 69? h. _____
i. 76 and 10? i. _____
j. 10 and 86? j. _____
k. 96 and 10? k. _____

29.

a. How many are 11 and 16? a. _____
b. 11 and 27? b. _____
c. 25 and 11? c. _____
d. 11 and 23? d. _____
e. 31 and 11? e. _____
f. 11 and 35? f. _____
g. 37 and 11? g. _____
h. 11 and 59? h. _____
i. 46 and 11? i. _____
j. 11 and 48? j. _____
k. 52 and 11? k. _____
l. 11 and 63? l. _____

LESSON 23

Name _____

INTELLECTUAL LESSON 5 Day of the Week _____

OBJECTIVES

- Solve addition problems involving up to 10 values
- Solve problems involving skip counting

Directions: Solve the following problems.

1. Three and 6 and 4 are how many? _____
2. Four and 5 and 7 are how many? _____
3. Five and 6 and 2 are how many? _____
4. Six and 4 and 5 are how many? _____
5. Seven and 3 and 5 and 2 are how many? _____
6. Eight and 2 and 3 and 4 are how many? _____
7. Nine and 2 and 4 and 3 are how many? _____
8. Two and 8 and 5 and 4 are how many? _____
9. Three and 9 and 5 and 4 are how many? _____
10. Four and 8 and 3 and 5 and 2 and 6 and 3 and 1 are how many? _____
11. Five and 7 and 2 and 3 and 4 and 6 and 5 and 2 are how many? _____
12. Two and 4 and 3 and 5 and 6 and 2 and 7 and 4 are how many? _____

13. Three and 2 and 4 and 5 and 4 and 6 and 3 and 7 and 5 are how many? _____

14. Four and 3 and 5 and 7 and 6 and 8 and 2 and 4 are how many? _____

15. Four and 9 and 3 and 5 and 6 and 7 and 8 and 9 are how many? _____

16. Five and 8 and 5 and 8 and 5 and 8 and 5 and 8 are how many? _____

17. Six and 8 and 7 and 3 and 5 and 4 and 7 and 1 and 9 are how many? _____

18. Seven and 9 and 5 and 4 and 6 and 3 and 8 and 5 and 9 are how many? _____

19. Eight and 7 and 6 and 5 and 4 and 9 and 3 and 7 and 8 are how many? _____

20. Nine and 6 and 7 and 4 and 5 and 3 and 8 and 2 and 9 are how many? _____

21. Seven and 6 and 5 and 8 and 7 and 9 and 8 and 4 and 9 and 8 are how many? _____

22. Nine and 8 and 7 and 5 and 8 and 9 and 5 and 4 and 7 and 3 and 9 and 8 are how many? _____

23. Twelve and 11 and 7 and 4 and 9 are how many? _____

24. Thirteen and 10 and 8 and 6 and 4 and 10 are how many? _____

25. Fourteen and 16 and 7 and 5 and 9 and 8 and 9 and 6 and 4 are how many? _____

26. James gave 7 cents for apples, and 8 cents for peaches: how many cents did he spend? _____

27. Seven dollars and 5 dollars and 3 dollars are how many dollars? _____

28. David had 11 books; he bought 7 more, and his brother gave him 5: how many had he then? _____

29. A man gave 13 dollars for a cart, 9 dollars for a plow, and 1 dollar for a rake: how much did he spend? _____

30. James has 8 marbles in one pocket, 5 in another, 6 in another, and 7 in another: how many in all? _____

31. If a dozen eggs cost 18 cents, and a pound of ham 10 cents, how much will both cost? _____

32. A man owes to one person 8 dollars, to another 5 dollars, to another 3 dollars, and to another 7 dollars: how much does he owe? _____

33. A boy gave 19 cents for a spelling-book, 8 cents for a slate, and 6 cents for pencils: how many cents did he spend? _____

34. A drover bought hogs as follows: of one man 17, of another 9, of another 7, of another 8: how many did he buy? _____

35. A little girl gave 10 cents for thread, 7 cents for pins, 6 cents for needles, and 9 cents for tape: how many cents did she spend? _____

36. William has 7 cents, Thomas 10 cents, David 9 cents, and Moses 8 cents: if the other boys give their money to Moses, how many cents will he have? _____

37. The age of Thomas is 8 years; of Frank, 5 years; and William is as old as both together: what is the sum of all their ages? _____

38. Joseph has 4 marbles, William has 2, and David has 16: how many have they all? _____

39. Begin with 2, and count one hundred by adding 2 successively. Thus, 2, 4, 6, 8, 10, and so on.

40. Begin with 3, and count ninety-nine by adding 3 successively. Thus, 3, 6, 9, 12, and so on.

41. Begin with 4, and count one hundred by adding 4 successively.

42. Begin with 5, and count one hundred by adding 5 successively.

43. Begin with 6, and count one hundred and two by adding 6 successively.

44. Begin with 7, and count ninety-eight by adding 7 successively.

45. Begin with 8, and count one hundred and four by adding 8 successively.

46. Begin with 9, and count ninety-nine by adding 9 successively.

47. Begin with 1, and count one hundred by adding 3 successively.

48. Begin with 3, and count one hundred and three by adding 4 successively

49. Begin with 2, and count one hundred and two by adding 5 successively.

50. Begin with 5, and count one hundred and seven by adding 6 successively.

51. Begin with 6, and count one hundred and four by adding 7 successively.

52. Begin with 7, and count one hundred and three by adding 8 successively.

53. Begin with 8, and count one hundred and seven by adding 9 successively.

LESSON 24

Name _____

PRACTICAL ARTICLE 17 Day of the Week _____

OBJECTIVES

- Addition of columns without carry

Directions: Solve the following problems by adding each column.

1.	2.	3.	4.
240	210	4321	50230
132	142	1254	3105
+ 25	+ 35	+ 3120	+ 423

LESSON 25

Name _____

PRACTICAL ARTICLE 18 Day of the Week _____

OBJECTIVES

- Addition of columns with carry

Directions: Solve the following problems by adding each column.

1.	2.	3.	4.
3415	2109	4321	50230
503	842	1254	3105
1870	11	2345	7457
+ 922	+ 70	+ 3120	+ 423

LESSON 26

Name _____

PRACTICAL ARTICLE 19 Day of the Week _____

OBJECTIVES

- Solve a variety of problems involving column addition with carry

Directions: Solve the following problems.

(1)	(2)	(3)	(3)	(4)	(5)
	184	204	103	495	384
	216	302	405	207	438
3745	135	401	764	185	348
2831	320	311	573	825	843
5983	413	109	127	403	483
7665	101	43	205	325	834

(7)	(8)	(9)	(10)	(11)	(12)
1065					
6317					
5183	3725	5943	82703	987462	6840325
7102	5834	6427	102	478345	7314268
3251	4261	8204	6005	610628	3751954
6044	7203	7336	759	423158	6287539

13. 11 + 22 + 33 + 44 + 55 = _____

14. 23 + 41 + 74 + 83 + 16 = _____

15. 45 + 19 + 32 + 74 + 55 = _____

16. 51 + 48 + 76 + 85 + 4 = _____

17. 263 + 104 + 321 + 155 = _____

18. 94753 + 2847 + 93688 + 9386 + 258 + 3456 = _____

19. January has 31 days; February, 28; March, 31; April, 30; and May, 31: how many days are there in these five months? _____

20. June has 30 days; July, 31; August, 31; September, October, 3l: how many days in all? _____

21. The first 5 months have 151 days, the next 5 have 153 days, November has 30, and December, 31: how many days in the whole year? _____

22. I bought 4 pieces of muslin: the first contained 50 yards, the second, 65, the third, 42, the fourth, 89: how many yards in all? _____

23. I owe one man $245, another $325, a third $187, a fourth $96: how much do I owe? _____

24. General Washington was born A. D. 1732, and lived 67 years: in what year did he die? _____

25. Alfred the Great died A. D. 901; thence to the signing of Magna Chart a was 314 years; thence to the American Revolution, 560 years: in what year did the American Revolution begin? _____

26. A has 4 flocks of sheep; in the first are 65 sheep and 43 lambs; in the second, 187 sheep and 105 lambs; in the third, 370 sheep and 243 lambs; in the fourth, 416 sheep and 95 lambs: how many sheep and lambs has he? _____

27. A man bought 30 barrels of pork for $285, 18 barrels for $144, 23 barrels for $235, and 34 barrels for $408: how many barrels did he buy, and how many dollars did he pay? _____

28. The first of four numbers is 287; the second, 596; the third, 841; and the fourth, as much as the first three: what is their sum? _____

29. The Pyramids of Egypt were built 1700 years before the founding of Carthage; Carthage was founded 47 years before and was destroyed 607 years after the founding of Rome, or 146 years before the Christian era. How many years before Christ were the Pyramids built? _____

30. Add three thousand and five; forty-two thousand six hundred and twenty-seven; 105; three hundred and seven thousand and four; 80079; three hundred and twenty thousand six hundred. _____

31. Add 275432; four hundred and two thousand and thirty; three hundred thousand and five; 872026; four million two thousand three hundred and forty-seven. _____

32. Add eight hundred and eighty million eight hundred and eighty-nine; 2002002; seventy-seven million four hundred and thirty-six thousand; two hundred and six million five thousand two hundred and seven; 49003; nine hundred and ninety million nineteen thousand nine hundred and nineteen. _____

33. North America has an area of 8955752 square miles; South America, 6917246 square miles; and the West Indies, 94523 square miles: what is the area of the entire continent? _____

34. A man pays $600 for a lot, $1325 for building materials, $30 for digging the cellar, $120 for stone work, $250 for brick-work, $140 for carpenter-work, $120 for plastering, and $115 for painting: how much did his house and lot cost him? _____

35. A man bequeaths $7850 to his wife, $3275 to each of his two sons, and 82650 to each of his three daughters: what is the amount of his bequest? _____

36. A merchant spent $8785 for dress goods, and $12789 for sheetings. He sold the dress goods at a profit of $878, and the sheetings at a profit of $1250: for how much did he sell the whole? _____

37. A merchant began business with $7000 cash, goods worth $12875, bank stock worth $5600, and other stocks worth $4785. In one year he gained $3500: what was he worth at its close? _____

38. A house has two parlors, each requiring 30 yards of carpet; four bed-rooms, each requiring 25 yards; a dining-room and sitting-room, each requiring 20 yards: how many yards are required to carpet the entire house? _____

LESSON 27

Name _____

TEST ARTICLE 19

Day of the Week _____

OBJECTIVE

- Review or test students on Article 19 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

Add the columns of numbers and solve the addition word problems.

(1)	(2)	(3)	(4)	(5)	(6)
444	476	743	622	208	748
233	340	385	387	759	677
342	546	614	494	437	386
531	784	286	365	666	974
124	937	367	938	384	953
345	542	894	673	759	379

(7)	(8)	(9)	(10)	(11)
5834	3948	4567	1357	6429
2345	5678	8912	9246	7531
768	1234	3456	8135	8642
4367	9999	7891	7924	9753
9843	7654	2345	6813	6767
6438	3467	6789	5897	8345

(12)	(13)	(14)	(15)	(16)
94073	47356	75319	86427	43214
9846	29356	86426	98574	67785
78468	31663	54687	89758	89376
93785	73548	34387	67896	97644
49679	46659	67496	9523	35975
3492	54762	78588	84376	68796
78685	8658	92738	63527	82768

(17)	(18)	(19)	(20)
473826	483736	765432	754218
584937	736475	198765	765432
695346	859648	432198	109876
746578	365439	765432	543210
677365	449563	987654	987654
485956	658757	321987	321008
345567	512934	654321	765432

(21)	(22)	(23)	(24)
864268	798386	946738	234567
975319	837654	784293	376674
876543	425262	367564	456953
234567	667788	852381	716364
426453	445599	177539	168478
777777	374859	796142	579797
633904	465768	265498	923564
135246	556677	437651	437675

(25)	(26)	(27)	(28)
4538762	4321763	5847354	6756453
7465477	3419844	7356819	1237634
5632850	4553735	9868943	7468515
6783219	9676756	8675478	3189743
7546578	6789427	9756986	4581524
2613695	8252178	3868314	6453635
8843617	7843439	7444267	7684813
4684653	5586865	9565479	9792354
6795876	8638274	8947548	2316615
4777656	4871847	4798716	9875243

(29)	(30)	(31)	(32)
8968548	7945	54	7694746
5637225	6723987	7483	887
6096	1496959	4565572	9769938
2375867	58964	4860	985398
9144636	7	438333	47879
6813405	8877898	9873865	4473767
82277	5693887	5687	6838438
1146	836836	798476	689989
3450014	8869	9929	8971524
8129982	9779853	6549590	7318

33. 7467 + 8938 + 5489 + 6756 + 4887 = _____

34. 57364 + 76528 + 79525 + 55772 + 98769 = _____

35. 49586 + 48659 + 39745 + 87685 + 92367 = _____

36. 58737 + 62914 + 13579 + 24682 + 98765 = _____

37. 4359 + 78768 + 90000 + 85076 + 19467 = _____

38. 37648 + 58459 + 39393 + 78978 + 89789 = _____

39. 76543 + 87654 + 98765 + 34567 + 45678 = _____

40. 12398 + 77665 + 99887 + 88776 + 66554 = _____

41. 73842 + 15693+ 17369 + 82456 + 48597 = _____

42. 49386 + 59487 + 69489 + 76563 + 86465 = _____

43. 76834 + 893584 + 4678 + 59356 + 5968 + 4938 = _____

44. 3456 + 34567 + 345678 + 3456789 = _____

45. 7654 + 987 + 9876 + 98765 + 987654 + 876543 + 8765 + 87654 = _____

46. Add 37590, 4856, 938, 4675, 12834, 2753, and 492. _____

47. Add 3962, 9623, 2639, 6293, 3269, 9326, 2963, and 6392. _____

48. Add 6783, 75, 4938, 6, 3974, 7788, 48395, and 568. _____

49. Add 29, 2967, 96, 9672, 67, 6729, 72, 7296, 79, and 796. _____

50. Add 67, 8945, 5873, 88, 6377, 24, 5891, 53, and 492. _____

51. Add fitly thousand and twenty-six; sixteen thousand two hundred; nine thousand and ninety-four; 47396; twenty-seven thousand six hundred and seven; 84759; ninety-three thousand and nineteen, and 6733. _____

52. Add 289564; ninety-four thousand six hundred and eight; 763268; 56921; nine hundred thousand and forty; sixteen thousand eight hundred and seven, and 5698. _____

53. A man owned seven houses, costing as follows: $5860, $4575, $9560, $12750, $6788, $3500, and $7388. What was the cost of all? _____

54. The following passengers were carried on a railway: Monday, 2567; Tuesday, 894; Wednesday, 1388; Thursday, 3146"; Friday, 1098; Saturday, 3834; and Sunday, 675. How many were carried during the week? _____

55. Eight men weigh as follows: 168 pounds, 195 pounds, 108 pounds, 187 pounds, 136 pounds, 205 pounds, 154 pounds, and 172 pounds. What is the weight of all? _____

56. In a city the inhabitants numbered as follows: Americans 57465, Germans 32903, Irish 7588, English 4995, Italians 2893, Colored 2566. How many in all? _____

57. The membership in four churches was as follows: in the first, 295 men and 330 women; in the second, 107 men and 95 women; in the third, 240 men and 277 women; and in the fourth, 150 men and 148 women. How many members in all? _____

58. A well was sunk through loam 3 feet, gravel 19 feet, clay 24 feet, sand 5 feet, and limestone 29 feet. How deep is the well? _____

59. What is the sum of all the numbers under 100, whose ten's figure is 7? _____

60. Find the total weight of 12 bales of hay, weighing as follows: 467, 388, 491, 417, 373, 402, 333, 412, 309, 383, 417, and 398 pounds. _____

61. A farmer raises 850 bushels of corn, 720 of oats, 560 of wheat, 236 of rye, 13 of millet, 390 of barley, and 78 of buckwheat. How much grain has he in all? _____

62. Five clerks receive $1275 apiece, and four others $960 apiece. What are their total wages? _____

63. The pupils in a school are classed as follows: A grade, 77 boys and 69 girls; B grade, 105 boys and 99 girls; grade, 148 boys and 153 girls; I) grade, 195 boys and 196 girls; and B grade, 219 boys and 231 girls. How many pupils in the school? _____

64. A planing mill sells the following quantities of lumber: pine, 19680 feet; oak, 7845 feet; poplar, 12098 feet; cherry, 2780 feet; ash, 9860 feet; walnut, 5947 feet; maple, 1439 feet; beech, 610 feet; and sycamore, 439 feet. How man feet in all? _____

65. In a school, 340 children are 6 years old, 297 are 7 years, 258 are 8 years, 227 are 9 nine years, 196 are 10 years, 145 are 11 years, 128 are 12 years, 91 are 13 years, 67 are 14 years, and 48 are older. How many pupils in the school? _____

66. A lady spent as follows: for muslin, 87 cents; calico, 95 cents; flannel, 175 cents; tape, 7 cents; buttons, 15 cents; thread, 25 cents; needles, 5 cents; silk, 280 cents; table cloth, 375 cents; and napkins, 250 cents. Find the amount of her bill. _____

67. Spent in a market as follows: for beef, 89 cents; chicken, 65 cents; turnips, 13 cents; carrots, 7 cents; oranges, 15 cents; apples, 35 cents; radishes, 10 cents; potatoes, 34 cents; butter, 45 cents; eggs, 56 cents; and beans, 30 cents. How much did I pay for all? _____

68. A commenced business with $9278, and gained $346; B with $7866, and gained $963; C with $12390, and gained $2240; and D with $1862, and gained $16. How much were the four then worth? _____

69. A factory makes in a week 960 chairs, 40 sofas, 68 lounges, 93 settees, 38 sideboards, 29 bureaus, 165 wash-stands, 82 wardrobes, 326 tables, 120 desks, and 5 blackboards. How many articles in all? _____

70. A steamer on a trip carried the following: iron, 475 tons; flour, 76 tons; cotton, 84 tons; coffee, 45 tons; sugar, 119 tons; tobacco, 84 tons; paper, 9 tons; lumber, 173 tons; rice, 17 tons; corn, 45 tons; cheese, 22 tons; and other articles, 36 tons. What was the weight of the cargo? _____

71. Write 58487 ten times and add. _____

72. A vessel sailed per day as follows: 204 miles, 78 miles, 137 miles, 99 miles, 136 miles, 196 miles, 312 miles. 273 miles, 301 miles, and 264 miles. Find the length of the trip. _____

73. Find the sum of all the numbers between 48 and 60. _____

74. Eight barrels of salt weighed respectively 372, 401, 294, 277, 336, 348, 299, and 363 pounds. Find the weight of all. _____

75. A has $450; B $7 more than A. How many have both? _____

76. A owns 320 acres of land; B, 120 more than A; and C, 100 more than B. How many acres have the three? _____

77. I lost $68, $23, and $254, and then had $77. How much had I at first? _____

78. A merchant paid during the year for rent, $1500; repairs, $205; book-keeper, $1500; clerks, $3200; fuel, $205; freight, $688; gas, $1018; advertising, $274; drayage, $290; taxes, $360; and little expenses, $164. Find his total expenses. _____

79. The rooms of a school-house contained 63, 61, 59, 57, 55, 53, 51, 49, 47, and 45 pupils respectively. How many pupils in all? _____

LESSON 28

Name _____

PRACTICAL ARTICLE 20

Day of the Week _____

OBJECTIVES

- Solve a variety of problems involving column addition, practicing adding two columns at once

Directions: Review the lesson. Add the following columns to solve the problems.

(1)	(2)	(3)	(4)	(5)	(6)
7892	3686	9898	4356	893742	234567
6779	4724	8989	6342	743698	765432
4865	6583	4545	7989	437821	987654
6234	5798	5454	4878	643567	456789
9347	6953	6363	6749	892742	778899

(7)	(8)	(9)	(10)
5493275	4819	18356	849627
6182463	9263	49276	532472
9538719	2752	94678	293784
2645834	8375	36525	468135
8256386	6498	42983	926547

(11)	(12)	(13)	(14)	(15)
7421	6873	4729	237285	884261
6322	2196	6234	64371	724353
798	583	5781	2143	416213
4352	79	3143	842	598624
547	684	7182	55	784344
674	4348	6989	789	627517
2315	7896	7222	4621	843641
7218	233	6643	15115	47821
1847	594	7859	647890	52348
5721	6483	6742	77442	2932
6843	7542	8982	84931	4751
4722	3967	3451	894623	896
5976	29	8692	446217	722
6843	478	7341	134162	823344
1234	1717	6822	192317	874132

LESSON 29

Name _____

INTELLECTUAL LESSON 6

Day of the Week _____

OBJECTIVES

- Read and solve word problems
- Solve subtraction problems with a minuend up to 15

Directions: Children complete the following problems.

1. James had 2 apples, and gave 1 to his brother: how many had he left?

2. Joseph had 3 apples and lost 1: how many had he left?

3. Thomas had 4 cents, and gave 1 of them to Frank: how many had he left?

4.
    a. One from 5 leaves how many?
    b. From 6?
    c. From 7?
    d. From 8?
    e. From 9?
    f. From 10?

5. John had 4 cents and gave his sister 2: how many had he left?

6. James had 5 apples, and gave his brother 2: how many had he left?

7.
    a. Two from 6 leaves how many?
    b. From 7?
    c. From 8?
    d. From 9?
    e. From 10?
    f. From 11?

8. Thomas had 5 cents and lost 3: how many had he left?

9.
    a. Three from 6 leaves how many?
    b. From 7?
    c. From 8?
    d. From 9?
    e. From 10?
    f. From 11?
    g. From 12?

10. Joseph had 9 marbles and lost 4: how many had he left?

11.
    a. Four from 10 leaves how many?
    b. From 11?
    c. From 12?
    d. From 13?
    e. From 14?
    f. From 15?

12. William had 10 apples and gave Joseph 5: how many had he left?

13.
    a. Five from 11 leaves how many?
    b. From 12?
    c. From 13?
    d. From 14?
    e. From 15?
    f. From 16?

14. James had 11 marbles and lost 6: how many had he left?

15.
    a. Six from 12 leaves how many?
    b. From 13?
    c. From 14?
    d. From 15?
    e. From 16?
    f. From 17?

16. William had 12 cents and lost 7: how many had he left?

17.
    a. Seven from 13 leaves how many?
    b. From 14?
    c. From 15?
    d. From 16?
    e. From 17?
    f. From 18?
    g. From 19?

18. James had 13 apples and gave his sister 8: how many had he left?

19.
    a. Eight from 14 leaves how many?
    b. From 15?
    c. From 16?
    d. From 17?
    e. From 18?
    f. From 19?
    g. From 20?

20. Thomas had 13 apples and gave his sister 9: how many had he left?

21.
    a. Nine from 14 leaves how many?
    b. From 15?
    c. From 16?
    d. From 17?
    e. From 18?
    f. From 19?
    g. From 20?

22. Henry had 17 cents and lost 5: how many had he remaining?

23. Mary is 12 years old, and Anna is 8: how much older is Mary than Anna?

24. Sold a load of corn for 17 dollars; received for it a barrel of flour worth 6 dollars, and the rest in money: how much money did I receive?

25. A boy had 18 marbles and lost 10: how many had he then?

LESSON 30

Name _____

PRACTICAL LESSON 21 Day of the Week _____

OBJECTIVES

- Read and solve subtraction word problems

Directions: Children complete the following problems.

1. If you have 9 apples, and give 4 away, how many will you have left?
2. Frank had 15 cents; after spending 7, how many were left?
3. If you take 8 from 13, how many are left?
4. If I have 25 cents, and spend 10 of them for a lead pencil, how much will I have left?
5. Twelve from twenty leaves how many?

LESSON 31

Name _____

PRACTICAL LESSON 22 Day of the Week _____

OBJECTIVES

- Study subtraction definitions

Directions: Children complete the following problems.

1. Circle the *Minuend* in the subtraction equation below.

   $2 - 1 = 1$

2. Circle the *Subtrahend* in the subtraction equation below.

   $5 - 3 = 2$

3. Circle the *Difference* in the subtraction equation below.

   $8 - 7 = 1$

4. Circle the *Remainder* in the subtraction equation below.

   $15 - 3 = 12$

LESSON 32

Name _____

PRACTICAL LESSON 23 Day of the Week _____

OBJECTIVES

- Read and solve subtraction equations

Directions: Children complete the following problems.

1. Circle the sign of Subtraction in the equation below.

   3 – 3 = 0

2. Circle the minus sign in the equation below.

   5 – 4 = 1

3. Circle the equals sign in the equation below.

   6 – 2 = 4

2 - 2 =	_____	3 - 3 =	_____	4 - 4 =	_____
8 - 2 =	_____	4 - 3 =	_____	5 - 4 =	_____
4 - 2 =	_____	5 - 3 =	_____	6 - 4 =	_____
5 - 2 =	_____	6 - 3 =	_____	7 - 4 =	_____
6 - 2 =	_____	7 - 3 =	_____	8 - 4 =	_____
7 - 2 =	_____	8 - 3 =	_____	9 - 4 =	_____
8 - 2 =	_____	9 - 3 =	_____	10 - 4 =	_____
9 - 2 =	_____	10 - 3 =	_____	11 - 4 =	_____
10 - 2 =	_____	11 - 3 =	_____	12 - 4 =	_____
11 - 2 =	_____	12 - 3 =	_____	13 - 4 =	_____

5 - 5 = _____	6 - 6 = _____	7 - 7 = _____
6 - 5 = _____	7 - 6 = _____	8 - 7 = _____
7 - 5 = _____	8 - 6 = _____	9 - 7 = _____
8 - 5 = _____	9 - 6 = _____	10 - 7 = _____
9 - 5 = _____	10 - 6 = _____	11 - 7 = _____
10 - 5 = _____	11 - 6 = _____	12 - 7 = _____
11 - 5 = _____	12 - 6 = _____	13 - 7 = _____
12 - 5 = _____	13 - 6 = _____	14 - 7 = _____
13 - 5 = _____	14 - 6 = _____	15 - 7 = _____
14 - 5 = _____	15 - 6 = _____	16 - 7 = _____

8 - 8 = _____	9 - 9 = _____
9 - 8 = _____	10 - 9 = _____
10 - 8 = _____	11 - 9 = _____
11 - 8 = _____	12 - 9 = _____
12 - 8 = _____	13 - 9 = _____
13 - 8 = _____	14 - 9 = _____
14 - 8 = _____	15 - 9 = _____
15 - 8 = _____	16 - 9 = _____
16 - 8 = _____	17 - 9 = _____
17 - 8 = _____	18 - 9 = _____

LESSON 33

Name _____

INTELLECTUAL LESSON 7

Day of the Week _____

OBJECTIVES

- Solve subtraction equations with minuends up to 22

Directions: Children complete the following problems.

2 - 2 = _____	3 - 3 = _____	4 - 4 = _____
8 - 2 = _____	4 - 3 = _____	5 - 4 = _____
4 - 2 = _____	5 - 3 = _____	6 - 4 = _____
5 - 2 = _____	6 - 3 = _____	7 - 4 = _____
6 - 2 = _____	7 - 3 = _____	8 - 4 = _____
7 - 2 = _____	8 - 3 = _____	9 - 4 = _____
8 - 2 = _____	9 - 3 = _____	10 - 4 = _____
9 - 2 = _____	10 - 3 = _____	11 - 4 = _____
10 - 2 = _____	11 - 3 = _____	12 - 4 = _____
11 - 2 = _____	12 - 3 = _____	13 - 4 = _____
12 - 2 = _____	13 - 3 = _____	14 - 4 = _____
13 - 2 = _____	14 - 3 = _____	15 - 4 = _____
14 - 2 = _____	15 - 3 = _____	16 - 4 = _____

5 - 5 = _____	6 - 6 = _____	7 - 7 = _____
6 - 5 = _____	7 - 6 = _____	8 - 7 = _____
7 - 5 = _____	8 - 6 = _____	9 - 7 = _____
8 - 5 = _____	9 - 6 = _____	10 - 7 = _____
9 - 5 = _____	10 - 6 = _____	11 - 7 = _____
10 - 5 = _____	11 - 6 = _____	12 - 7 = _____
11 - 5 = _____	12 - 6 = _____	13 - 7 = _____
12 - 5 = _____	13 - 6 = _____	14 - 7 = _____
13 - 5 = _____	14 - 6 = _____	15 - 7 = _____
14 - 5 = _____	15 - 6 = _____	16 - 7 = _____
15 - 5 = _____	16 - 6 = _____	17 - 7 = _____
16 - 5 = _____	17 - 6 = _____	18 - 7 = _____
17 - 5 = _____	18 - 6 = _____	19 - 7 = _____

8 - 8 = _____	9 - 9 = _____	10 - 10 = _____
9 - 8 = _____	10 - 9 = _____	11 - 10 = _____
10 - 8 = _____	11 - 9 = _____	12 - 10 = _____
11 - 8 = _____	12 - 9 = _____	13 - 10 = _____
12 - 8 = _____	13 - 9 = _____	14 - 10 = _____
13 - 8 = _____	14 - 9 = _____	15 - 10 = _____
14 - 8 = _____	15 - 9 = _____	16 - 10 = _____
15 - 8 = _____	16 - 9 = _____	17 - 10 = _____
16 - 8 = _____	17 - 9 = _____	18 - 10 = _____
17 - 8 = _____	18 - 9 = _____	19 - 10 = _____
18 - 8 = _____	19 - 9 = _____	20 - 10 = _____
19 - 8 = _____	20 - 9 = _____	21 - 10 = _____
20 - 8 = _____	21 - 9 = _____	22 - 10 = _____

LESSON 34

Name _____

INTELLECTUAL LESSON 8 Day of the Week _____

OBJECTIVES

- Read and solve subtraction word problems

Directions: Children complete the following problems.

1. A boy gave 9 cents for a slate, worth only 7 cents: how much did he pay for it more than it was worth?

2. A man, having 16 dollars, lost 12: how many dollars had he left?

3. Bought a book for 12 cents, and a top for 7 cents: how much did the book cost more than the top?

4. Thomas had 18 cents given him by two boys; one gave 9: how many did the other give?

5. Bought a book for 14 cents, and gave the shop keeper 20 cents: how much change did he return me?

6. William has 19 hazel-nuts in his two pockets; in one pocket he has 15: how many are in the other?

7. A man has 25 miles to travel: when he has gone 19 miles, how far will he still have to travel?

8. A boy gave 24 cents for a book, and sold it for 16 cents: how much did he lose?

9. James had 24 marbles; he gave 19 to his brother: how many had he left?

10. A man bought a horse for 19 dollars, and sold him for 27 dollars: how much did he gain?

11. A man, owing 20 dollars, paid 18; how many did he still owe?

12. Frank had 26 cents given him by William and Thomas. William gave him 17.
    a. How many did Thomas give?
    b. How many more did William give than Thomas?

13. If you had 10 apples, and should give 2 to John, and 6 to your sister: how many would you have left?

14. Abel had 36 cents, and his mother gave him enough more to make 40 cents: how many did she give him?

15. George had 40 marbles; he lost 20: how many did he then have?

16. A man bought 100 barrels of flour; he sold 50 barrels: how many did he have left?

17. A farmer had 35 bushels of grain; a part having been wasted, he found there were but 22 bushels remaining: how much was wasted?

18. John's father is 36 years old; John is 12: how many years older than John is his father?

19. I had 65 cents; spent 20 cents for a book and 10 for a slate: how much had I left?

20. If you take 10 from the sum of two numbers, there will be 8 left: what is their sum?

21. If you take 16 from the difference of two numbers, there will remain 12: what is their difference?

22. The sum of two numbers is 20: what number must be added to make their sum 30?

23. The sum of two numbers is 16 more than their difference; if their difference is 4, what is their sum?

24. The greater of two numbers is 12, and their difference 5: what is the less?

25. The sum of two numbers is 21; the less number is 8: what is the greater?

LESSON 35

Name _____

INTELLECTUAL LESSON 9 Day of the Week _____

OBJECTIVES

- Read and solve subtraction review problems

Directions: Children complete the following problems.

1. James had 13 marbles; he gave 2 to Henry, and 3 to Thomas: how many had he left?

2. A merchant had 40 barrels of flour; he sold to one man 9, to another 21: how many had he left?

3. On Christmas day, William had 36 cents given him; he spent 6 cents for apples, 9 cents for cakes, and 10 cents for candy: how many had he left?

4. A man paid 30 dollars for a horse, the keeping cost 9 dollars, and he sold him for 29 dollars: how many dollars did he lose?

5. A man, having 34 dollars, bought a barrel of molasses for 15 dollars, and a bag of coffee for 10 dollars: how many dollars had he left?

6. A grocer bought some oranges for 9 dollars, some lemons for 7 dollars, some prunes for 5 dollars, and some figs for 9 dollars; he then sold them for 41 dollars: how much did he gain?

7. A lady bought a comb for 25 cents, some pins for 10 cents, tape for 7 cents, thread for 6 cents, and a toy book for 5 cents; she gave 60 cents to the shopkeeper: how much change ought she to receive?

8. Two boys commenced playing marbles; each had 18 when they began; when they quit, one had 25: how many had the other?

9. Thomas has 7 marbles, David 5, and Moses 11
    a. How many have they all?
    b. How many more than Thomas have Moses and David together?

10. Three boys played marbles: Thomas had 20, David 10, and Moses 4; when they quit, David had 6 and Moses 12: how many had Thomas?

11. A farmer had 24 sheep; 9 of them were killed by wolves, 5 of them were stolen, and 6 he sold: how many had he left?

12. A grocer bought sugar for 12 dollars, flour for 6 dollars, and coffee for 5 dollars; he sold the whole for 30 dollars: how much did he make?

13. A lady had 50 cents; she spent 25 cents for butter, and 10 cents for eggs: how much had she left?

14. A man is indebted to A, 5 dollars; to B, 6 dollars; and to C, 10 dollars: he has cash to the amount of 20 dollars, and goods valued at 10 dollars: should he pay his debts, how much would he be worth?

15. How many are 90 less 35, less 25, less 15?

LESSON 36

Name _____

INTELLECTUAL LESSON 10

Day of the Week _____

OBJECTIVES

- Read and solve addition and subtraction equations

Directions: Children complete the following equations.

1. 3 - 2 + 1 = _____
2. 4 - 3 + 2 = _____
3. 6 - 5 + 4 = _____
4. 8 - 7 + 6 = _____
5. 7 - 3 + 5 = _____
6. 9 - 4 + 7 = _____
7. 4 - 3 + 2 - 1 = _____
8. 6 - 5 + 4 - 3 = _____
9. 8 - 4 + 6 - 5 = _____
10. 9 - 5 + 7 - 2 = _____
11. 9 - 4 + 3 – 2 + 1 = _____
12. 8 - 5 + 4 - 3 + 2 = _____
13. 7 - 3 + 5 - 4 + 3 = _____
14. 8 - 2 + 6 - 5 + 4 = _____

15. 9 - 5 + 7 - 6 + 5 = _____

16. 6 - 2 + 4 - 3 + 2 - 1 = _____

17. 7 - 4 + 5 - 4 + 3 - 2 = _____

18. 8 - 5 + 6 - 5 + 4 - 3 = _____

19. 9 - 6 + 7 - 6 + 5 - 4 = _____

20. 7 - 6 + 5 - 4 + 3 - 2 + 1 = _____

21. 8 - 6 + 6 - 5 + 4 - 3 + 2 - 1 = _____

22. 9 - 5 + 7 - 6 + 5 - 4 + 3 - 2 + 1 = _____

23. 1 + 2 + 3 - 4 + 5 - 6 + 7 - 5 + 9 = _____

24. 9 - 1 - 2 - 3 + 4 - 5 + 6 - 4 + 8 = _____

25. 1 + 9 - 2 - 3 + 3 + 7 - 6 - 4 + 5 = _____

26. 9 - 7 + 8 - 5 + 6 - 3 + 4 - 2 + 1 - 10 = _____

27. 1 + 3 - 2 + 4 - 5 + 7 - 6 + 8 - 9 + 10 = _____

LESSON 37

Name _____

INTELLECTUAL LESSON 11 Day of the Week _____

OBJECTIVES

- Read and solve addition and subtraction word problems

Directions: Children complete the following problems.

1. Henry had 24 cents, and spent all but 15: how many did he spend?

2. A man bought a cask of wine containing 27 gallons; after selling 10 gallons, he found there were but 9 gallons remaining, the rest having leaked out: how much did he lose?

3. If from 20 you take 12 less 3, how many will remain?

4. If from the sum of 19 and 10 you take the difference between 17 and 10, what will be left?

5. A man owed 60 dollars: he paid at one time 20 dollars, and at another 30 dollars; he afterwards borrowed 5 dollars: how much does he still owe?

6. A man paid 38 dollars for a horse, and 20 for a colt: he afterwards sold the colt for 10 dollars, and the horse for 65: how much did he make by the transaction?

7. Twenty-four less 8, and 12 less 5, are together how much less than 25?

8. Engaged to do a piece of work for 60 dollars: had an assistant 25 days at a dollar a day, and paid 20 dollars for materials: how much did I earn?

9. If from the sum of 8 and 9 and 10 and 11, you take the sum of 4 and 5 and 6 and 7, what will you have remaining?

10. A jeweler bought a watch for 40 dollars, a chain for 15 dollars, and a key for 3 dollars: he sold them for 63 dollars: what did he gain?

11. A drover bought sheep as follows: of one man, 10; of another, 12; of another, 5; of another, 3: he sold at one time, 15; and at another, 5: how many were left?

12. A gentleman, having 40 dollars, purchased a suit of clothes: his pants cost 7 dollars; vest, 5 dollars; coat, 25 dollars: how much had he left?

13. What number must be added to 25 to make a sum 14 less than 45?

14. What number must be taken from 62 to give a result which shall be 12 more than 45?

15. If from the sum of 25 and 10 and 12, you take the difference between 28 and 19, what will remain?

16. A man bought a horse for 40 dollars: and, after paying 15 dollars for keeping him, sold him for 75 dollars: how much did he make?

17. A gentleman engaged in trade with 75 dollars: after losing at one time 10 dollars, and at another 5, he gained 20 dollars: how much did he then have?

18. The difference between two numbers is 17: the greater number is 85: what is the less?

19. John and James entered into partnership in business, with a joint capital of 100 dollars. John furnished 60 dollars of the money: what was James's share?

20. A barrel contained 30 gallons of syrup. Of this, 14 gallons were sold, 5 gallons leaked out, and 3 gallons were given away: how much syrup remained in the barrel?

21. An orchard contains, in one row, 5 apple trees and 15 peach trees; in another row, 11 apple trees and 9 peach trees; and in another, 10 trees of each kind: how many more peach trees in the orchard than apple trees?

22. How many are 87 less 14, less 21, less 51?

LESSON 38

Name _____

PRACTICAL LESSON 24

Day of the Week _____

OBJECTIVES

- Read and solve subtraction equations (no borrow required)

Directions: Children complete the following problems.

1. A man having $135, spent $112: how much had he left?
2. A farmer having 245 sheep, sold 123: how many sheep had he left?
3. A man bought a farm for $751, and sold it for $875: how much did he gain?
4. What is the difference between 734 and 531?
5. What is the difference between 8752 and 3421?
6. What is the difference between 79484 and 25163?
7. What is the difference between 49528 and 16415?

LESSON 39

Name _____

PRACTICAL LESSON 25 Day of the Week _____

OBJECTIVES

- Read and solve subtraction equations (borrow required)

Directions: Children complete the following problems.

1. James had 13 cents; after spending 5, how many cents had he left?

2. From 73 subtract 45.

$$\begin{array}{r} 73 \\ \underline{45} \end{array}$$

3. Find the difference between 805 and 637.

$$\begin{array}{r} 805 \\ \underline{637} \end{array}$$

LESSON 40

Name _____

PRACTICAL LESSON 26 Day of the Week _____

OBJECTIVES

- Prove subtraction problems are correct.
- Solve problems involving both addition and subtraction.

Directions: Prove the following subtraction problems are correct. Add the remainder to the subtrahend; if the sum is equal to the minuend, the work is correct.

	(1)	(2)	(3)	(4)	(5)
Minuends	7640	860012	4500120	3860000	4444444
Subtrahends	1234	430021	2910221	120901	1234567
Remainders	6406	429991	1589899	3739099	3209877

Proof

	(6)	(7)	(8)	(9)
Minuends	91516171	63046571	153425178	100000000
Subtrahends	15161718	34992884	53845248	10001001
Remainders	76354453	28053687	99579930	89998999

Proof

10. Prove that 17 cents from 63 cents is 46 cents.

11. Prove that if a carriage costs $137 and a horse costs $65, the carriage costs $72 more than the horse.

12. Prove that a stump is 38 feet high if a tree 75 feet high was broken and the part that fell was 37 feet long.

13. Prove that 345 years elapsed between when Columbus discovered America in 1492 and the year of 1837.

14. Prove that you have $1365 in your bank account given that you started with $1840 and drew out $475.

15. Prove that a man with a property worth $10104 and owes debts of $7426 has $2678 remaining.

16. Prove that a man starting with $100000 who gives away $11 has $99989 left.

17. Prove that 19019 subtracted from 20010 leaves 991.

18. Prove that the excess above 50082 to nine hundred and twelve thousand and ten is 861928.

19. Prove that 4004 taken from 4 million is 3995996.

20. Prove that subtracting 1009006 from two million twenty thousand nine hundred and thirty leaves 1011924.

21. Prove that subtracting four hundred and five thousand and twenty-two from 2000687 leaves 1595665.

22. Prove that the difference between thirteen million two hundred and one and 17102102 is 4101901.

23. Prove that if a man has lost $3,033 if he invested in business $30,000 and at the end of the first year he found that all his assets amounted to only $26,967.

24. Prove that taking 9238715 from 18126402 leaves 8887687.

25. Prove that taking 9909090009 from 19900900900 leaves 9991810891.

Directions: Solve the following problems in addition and subtraction.

1. 275 + 381 + 625 - 1098 =

2. 6723 - 479 - 347- 228 =

3. In January, 1876, a merchant bought goods to the amount of $2675; in February, $4375; and in March, $1897; after making one payment of $3000, and another of $4947, how much did he still owe?

4. I owe three notes, whose sum is $1300-one note being for $250, and another for $650: what is the amount of the third note?

5. Mr. Jones deposited $450 in bank on Monday; on Tuesday, $725; on Wednesday, $1235; on Thursday, $4675; and on Friday, $1727. On Saturday morning he drew out $5935, and Saturday afternoon, $877: how much money had he left in bank?

6. At the end of one year I found I had spent $2300. Of this amount, $350 were paid for board, $125 for clothing, $375 for books, $150 for incidentals, and the remainder for two acres of ground: how much did the two acres cost?

7. A speculator bought three houses. For the first he gave $4875; for the second, $2250 more than for the first; and for the third he gave $3725. He afterward sold them all for $20838: how much did he gain?

8. A man owns property valued at $49570, of which $16785 are in personal property, and $24937 in real estate; the remainder was deposited in bank: how much has he in bank?

9. A merchant bought a bill of goods for $7895, and paid $175 for freight, and $3 for drayage. He sold the goods for $10093: how much did he gain?

10. A farmer invested $10000, as follows: in land, $5750; in horses, $925; in cattle, $1575; in hogs, $675; and the remainder in implements and tools: how much did he invest in implements and tools?

11. A speculator on Monday gained $4625; on Tuesday, $3785; on Wednesday he lost $6955; on Thursday he lost 8895; on Friday he gained $985, and on Saturday he lost 81375: how much did he gain during the entire week?

12. The following is Mr. Brown's private account for two weeks: First week, received $50 for salary, and spent $25 for clothing, 87 for board, $2 for washing, and $5 for sundries. Second week, received 850 for salary, loaned $35 to Tom Jones, paid $7 for board, $2 for washing, and $8 for sundries. How much did Mr. Brown have at the end of the two weeks?

LESSON 41

Name _____

TEST ARTICLE 26

Day of the Week _____

OBJECTIVES

- Read and solve subtraction review problems

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

Directions: Solve the following subtraction problems.

1. From 4368 take 2634.

2. From 56789 take 9876.

3. From 33333 take 4040.

4. From 303030 take 222222.

5. From 5263743 take 2281429.

6. From 34567890 take 12345678.

7. From 34567890 take 1234567.

8. From 43216723 take 9013861.

9. From 29345678 take 2934587.

10. From 2009988 take 1838899.

11. From 60000254 take 5000169.

12. From 222333444 take 22334455.

13. From 367890000 take 724.

14. From 8245673432 take 7345582604.

15. From 99009900 take 88088088.

16. From 90008000 take 2765094.

17. From 21222324 take 12223242.

18. From 3067543581 take 9364.

19. From 189640054 take 99999999.

20. From 880088007 take 80059920.

21. Take 47563 from 128290.

22. Take 1357924 from 4297531.

23. Take 98700563 from 100987285.

24. Take 7654083 from 23582467.

25. Take 7654083 from 235824674.

26. Take 30047582 from 40100000.

27. Take 235643218 from 524870042.

28. Take 3242526272 from 4252621222.

29. Take 123456789 from 987654321.

30. From four million and sixty take 239734.

31. From 59 billion and 30 thousand take 9 million 527 thousand 235.

32. 34000527 — 8370263 = what?

33. 200003000 — 5604037 = what?

34. 37360000 less 29504574 = what?

35. How much greater is 234568001 than 42734056?

36. How much less is 2980752 than 3009527?

37. From 1 unit of the eighth order take 5432187.

38. What number must be taken from five million and five to leave five thousand five hundred?

39. What number must be added to 3723489 to make ten million?

40. What is the difference between 3802764 and 3890609?

41. 39 million less 7800973 = what?

42. What is the difference between 8200969 and 7040080?

43. From 17 million 14 thousand take 9 million 99 thousand 900.

44. From 1 trillion take 560000900384.

45. From forty billion sixty million take 7 billion 328 million 9 thousand and 87.

46. A house cost $4000, and was sold at a loss of $968. How much was received for it?

47. A house was sold for $3425, at a gain of $956. Find the cost.

48. I had $843, and gave away all except $96. How much did I give away?

49. A man had 320 acres, of which 47 acres were woodland. How much was cleared?

50. Washington was born in 1732, and died in 1799. How old was he when he died?

51. In what year was a man born, who died in 1875 at the age of 86?

52. Commenced business with $18420, and quit with $16975. How much did I lose?

53. Commenced with $29080, and lost $2364. How much had I left?

54. After gaining $2972, I had forty thousand dollars. With what sum did I commence?

55. A man agrees to build 4270 feet of fence; after completing 1909 feet, how much remains to be built?

56. A published 40000 copies of a book, and sold 37036. How many remain unsold?

57. I had $1807 in bank, and gave a check for $250. How much was in bank after the check was paid?

58. Sold goods at an advance of $12500, and my expenses were $3750. What was my real gain?

59. At an election Brown received 1013 votes and Jones 831 votes. What is Brown's majority over Jones?

60. Floods occurred in the Ohio River in the years 1832 and 1883. How many years are between the two?

61. A treasurer received $507320, of which he paid out $498078. How much has he still?

62. From 2004 take 668 twice.

63. Subtract 3728 three times from 12000.

64. Find the excess of 40789 over 30978.

65. From 100000308 take 15700890 four times.

66. 453 + 268 + 2000 — 983 =?

67. 2500 + 2145 — 485 — 3485 =?

68. 489 + 625 — 873 + 341 =?

69. 3250 — 2409 + 1783 — 999 =?

70. 10000 — 2733 — 2789 — 2648 =?

71. 11111 — 2844 — 2557 + 129 =?

72. From 2701 take the difference between 2701 and 897.

73. From 2700 take the sum of 598 and 697.

74. I had $2365; I received $2138 for a house, and paid away $3980. How much have I left?

75. A farmer had 300 acres of tilled land, 725 acres of pasture, and 409 acres of woodland; he sells 987 acres. How much has he now?

76. From the sum of 3456 and 6546 take the difference between 10000 and 1001.

77. From the sum of 4783 and 5984 take their difference.

78. A city contained 47850 inhabitants; 1372 moved in, and 679 moved away; 948 were born, and 473 died. How many did it then contain?

79. Had in bank $2125; deposited $267, and afterwards drew out $415 and $290. How much is left in bank?

80. Bought 4 hogsheads of sugar containing 1183, 1211, 1170, and 1293 pounds, and then filled and sold 3 barrels, each containing 219 pounds. How much is left?

81. Sold, the first year, $8760 worth of goods; the next year $2698 more than the first. How much was that for two years?

82. Williams & Co. gained $4200 the first year, $3850 the second year, and then had $30000. What was their capital at first?

83. Had $20880; gained $1706 the first year, and enough the second year to make my capital $25000. What did I gain the second year?

84. A firm owed me $3800; I bought from them $12000 of goods, paying them $5000 cash, and giving them a note for balance due them. What was the amount of the note?

85. A is worth $4750; B $988 more than A; C $47 less than B; and D $50 less than A. How much have all together?

86. A man died leaving property worth $60000 to be divided among his widow, two sons, and three daughters; each son received $9870, and each daughter $7890. How much remains for the widow?

LESSON 42

Name _____

INTELLECTUAL LESSON 12 Day of the Week _____

OBJECTIVES

- Read and solve multiplication problems

Directions: Children complete the following problems.

1. A boy gave 2 cents for one lemon, and 2 cents for another: how many cents did he give for both? _____
2. A boy gave 3 cents for one peach, and 3 cents for another: how many cents did he give for both? _____
3. At 4 cents apiece, what will 2 pears cost? _____
4. At 3 cents apiece, what will 3 peaches cost? _____
5. At 3 cents apiece, what will 4 apples cost? _____
6. At 3 cents apiece, what will 5 postage stamps cost? _____
7. At 4 cents apiece, what will 4 lemons cost? _____
8. At 5 dollars a yard, what will 4 yards of cloth cost? _____
9. At 6 dollars a barrel, what will 4 barrels of flour cost? _____
10. At 5 cents apiece, what will 5 bananas cost? _____
11. At 6 cents a yard, what will 5 yards of tape cost? _____
12. At 6 cents apiece, what will 6 oranges cost? _____
13. At 7 cents a yard, what will 2 yards of calico cost? _____

14. At 7 cents apiece, what will 3 papers cost? _____

15. At 7 cents apiece, what will 4 toys cost? _____

16. If 1 marble is worth 7 apples, how many apples are 5 marbles worth? _____

17. If 1 peach is worth 8 apples, how many apples are 2 peaches worth? _____

18.
    a. If 1 orange cost 8 cents, how many cents will 3 oranges cost? _____
    b. If 1 orange cost 8 cents, how many cents will 4 oranges cost? _____

19. If 1 orange is worth 8 apples, how many apples are 5 oranges worth? _____

20.
    a. At 9 cents a yard, what will 2 yards of calico cost? _____
    b. At 9 cents a yard, what will 3 yards of calico cost? _____

21. What will 4 quarts of nuts cost, at 10 cents a quart? _____

22. What will 3 yards of muslin cost, at 11 cents a yard? _____

23. Draw a circle around the multiplicand, draw a square around the multiplier, and draw a diamond around the product of the following equations:
    a. 1 x 2 = 2
    b. 3 x 4 = 12
    c. 9 x 8 = 72

LESSON 43

Name _____

PRACTICAL LESSON 27

Day of the Week _____

OBJECTIVES

- Read and solve word problems

Directions: Children complete the following problems.

1. If 1 orange costs 2 cents, what will 3 oranges cost?

2. If 1 lemon costs 3 cents, how many cents will 4 lemons cost?

3. In an orchard, there are 4 rows of trees, and in each row, 21 trees: how many trees in the orchard?

4. Prove that the sum of 5 twos is the same as the sum of 2 fives.

5. Prove that the sum of 3 fours is the same as the sum of 4 threes.

LESSON 44

Name _____

PRACTICAL LESSON 28 Day of the Week _____

OBJECTIVES

- Study multiplication definitions

Directions: Children complete the following problems.

1. Circle the *Multiplier* in the multiplication equation below.

   2 x 1 = 2

2. Circle the *Multiplicand* in the multiplication equation below.

   5 x 3 =15

3. Circle the *Product* in the multiplication equation below.

   8 x 7 = 56

4. Circle the *Factors* in the subtraction equation below.

   15 x 3 = 45

LESSON 45

Name _____

PRACTICAL LESSON 29 Day of the Week _____

OBJECTIVES

- Solve multiplication table problems

Directions: Children complete the following problems.

1 x 1 = _____	1 x 2 = _____	1 x 3 = _____	1 x 4 = _____	1 x 5 = _____
2 x 1 = _____	2 x 2 = _____	2 x 3 = _____	2 x 4 = _____	2 x 5 = _____
3 x 1 = _____	3 x 2 = _____	3 x 3 = _____	3 x 4 = _____	3 x 5 = _____
4 x 1 = _____	4 x 2 = _____	4 x 3 = _____	4 x 4 = _____	4 x 5 = _____
5 x 1 = _____	5 x 2 = _____	5 x 3 = _____	5 x 4 = _____	5 x 5 = _____
6 x 1 = _____	6 x 2 = _____	6 x 3 = _____	6 x 4 = _____	6 x 5 = _____
7 x 1 = _____	7 x 2 = _____	7 x 3 = _____	7 x 4 = _____	7 x 5 = _____
8 x 1 = _____	8 x 2 = _____	8 x 3 = _____	8 x 4 = _____	8 x 5 = _____
9 x 1 = _____	9 x 2 = _____	9 x 3 = _____	9 x 4 = _____	9 x 5 = _____
10 x 1 = _____	10 x 2 = _____	10 x 3 = _____	10 x 4 = _____	10 x 5 = _____
11 x 1 = _____	11 x 2 = _____	11 x 3 = _____	11 x 4 = _____	11 x 5 = _____
12 x 1 = _____	12 x 2 = _____	12 x 3 = _____	12 x 4 = _____	12 x 5 = _____

1 x 6 = _____	1 x 7 = _____	1 x 8 = _____	1 x 9 = _____	1 x 10 = _____
2 x 6 = _____	2 x 7 = _____	2 x 8 = _____	2 x 9 = _____	2 x 10 = _____
3 x 6 = _____	3 x 7 = _____	3 x 8 = _____	3 x 9 = _____	3 x 10 = _____
4 x 6 = _____	4 x 7 = _____	4 x 8 = _____	4 x 9 = _____	4 x 10 = _____
5 x 6 = _____	5 x 7 = _____	5 x 8 = _____	5 x 9 = _____	5 x 10 = _____
6 x 6 = _____	6 x 7 = _____	6 x 8 = _____	6 x 9 = _____	6 x 10 = _____
7 x 6 = _____	7 x 7 = _____	7 x 8 = _____	7 x 9 = _____	7 x 10 = _____
8 x 6 = _____	8 x 7 = _____	8 x 8 = _____	8 x 9 = _____	8 x 10 = _____
9 x 6 = _____	9 x 7 = _____	9 x 8 = _____	9 x 9 = _____	9 x 10 = _____
10 x 6 = _____	10 x 7 = _____	10 x 8 = _____	10 x 9 = _____	10 x 10 = _____
11 x 6 = _____	11 x 7 = _____	11 x 8 = _____	11 x 9 = _____	11 x 10 = _____
12 x 6 = _____	12 x 7 = _____	12 x 8 = _____	12 x 9 = _____	12 x 10 = _____

1 x 11 = _____	1 x 12 = _____
2 x 11 = _____	2 x 12 = _____
3 x 11 = _____	3 x 12 = _____
4 x 11 = _____	4 x 12 = _____
5 x 11 = _____	5 x 12 = _____
6 x 11 = _____	6 x 12 = _____
7 x 11 = _____	7 x 12 = _____
8 x 11 = _____	8 x 12 = _____
9 x 11 = _____	9 x 12 = _____
10 x 11 = _____	10 x 12 = _____
11 x 11 = _____	11 x 12 = _____
12 x 11 = _____	12 x 12 = _____

LESSON 46

Name _____

INTELLECTUAL LESSON 13 Day of the Week _____

OBJECTIVES

- Read and solve word problems

Directions: As you solve the following problems, recite them aloud. Make sure to memorize these facts.

1 x 1 = _____	1 x 2 = _____	1 x 3 = _____	1 x 4 = _____	1 x 5 = _____
2 x 1 = _____	2 x 2 = _____	2 x 3 = _____	2 x 4 = _____	2 x 5 = _____
3 x 1 = _____	3 x 2 = _____	3 x 3 = _____	3 x 4 = _____	3 x 5 = _____
4 x 1 = _____	4 x 2 = _____	4 x 3 = _____	4 x 4 = _____	4 x 5 = _____
5 x 1 = _____	5 x 2 = _____	5 x 3 = _____	5 x 4 = _____	5 x 5 = _____
6 x 1 = _____	6 x 2 = _____	6 x 3 = _____	6 x 4 = _____	6 x 5 = _____
7 x 1 = _____	7 x 2 = _____	7 x 3 = _____	7 x 4 = _____	7 x 5 = _____
8 x 1 = _____	8 x 2 = _____	8 x 3 = _____	8 x 4 = _____	8 x 5 = _____
9 x 1 = _____	9 x 2 = _____	9 x 3 = _____	9 x 4 = _____	9 x 5 = _____
10 x 1 = _____	10 x 2 = _____	10 x 3 = _____	10 x 4 = _____	10 x 5 = _____
11 x l = _____	11 x 2 = _____	11 x 3 = _____	11 x 4 = _____	11 x 5 = _____
12 x 1 = _____	12 x 2 = _____	12 x 3 = _____	12 x 4 = _____	12 x 5 = _____

1 x 6 = _____	1 x 7 = _____	1 x 8 = _____	1 x 9 = _____	1 x 10 = _____
2 x 6 = _____	2 x 7 = _____	2 x 8 = _____	2 x 9 = _____	2 x 10 = _____
3 x 6 = _____	3 x 7 = _____	3 x 8 = _____	3 x 9 = _____	3 x 10 = _____
4 x 6 = _____	4 x 7 = _____	4 x 8 = _____	4 x 9 = _____	4 x 10 = _____
5 x 6 = _____	5 x 7 = _____	5 x 8 = _____	5 x 9 = _____	5 x 10 = _____
6 x 6 = _____	6 x 7 = _____	6 x 8 = _____	6 x 9 = _____	6 x 10 = _____

7 x 6 = _____	7 x 7 = _____	7 x 8 = _____	7 x 9 = _____	7 x 10 = _____
8 x 6 = _____	8 x 7 = _____	8 x 8 = _____	8 x 9 = _____	8 x 10 = _____
9 x 6 = _____	9 x 7 = _____	9 x 8 = _____	9 x 9 = _____	9 x 10 = _____
10 x 6 = _____	10 x 7 = _____	10 x 8 = _____	10 x 9 = _____	10 x 10 = _____
11 x 6 = _____	11 x 7 = _____	11 x 8 = _____	11 x 9 = _____	11 x 10 = _____
12 x 6 = _____	12 x 7 = _____	12 x 8 = _____	12 x 9 = _____	12 x 10 = _____

1 x 11 = _____	1 x 12 = _____
2 x 11 = _____	2 x 12 = _____
3 x 11 = _____	3 x 12 = _____
4 x 11 = _____	4 x 12 = _____
5 x 11 = _____	5 x 12 = _____
6 x 11 = _____	6 x 12 = _____
7 x 11 = _____	7 x 12 = _____
8 x 11 = _____	8 x 12 = _____
9 x 11 = _____	9 x 12 = _____
10 x 11 = _____	10 x 12 = _____
11 x 11 = _____	11 x 12 = _____
12 x 11 = _____	12 x 12 = _____

1. 4 times 7 are how many? _____
2. 8 times 2? _____ 7 times 5? _____ 6 times 7? _____
3. 8 times 6? _____ 6 times 9? _____ 9 times 7? _____
4. 9 times 8? _____ 7 times 7? _____ 7 times 8? _____
5. 12 times 2? _____ 2 times 10? _____ 3 times 6? _____

6.	10 times 5? _____	4 times 11? _____	12 times 3? _____
7.	8 times 8? _____	6 times 11? _____	9 times 2? _____
8.	7 times 10? _____	12 times 4? _____	8 times 5? _____
9.	3 times 2? _____	4 times 2? _____	5 times 2? _____
10.	4 times 3? _____	7 times 2? _____	5 times 3? _____
11.	5 times 4? _____	6 times 6? _____	11 times 2? _____
12.	8 times 3? _____	5 times 5? _____	11 times 3? _____
13.	10 times 6? _____	6 times 12? _____	10 times 3? _____
14.	9 times 12? _____	9 times 4? _____	4 times 10? _____
15.	11 times 10? _____	9 times 5? _____	11 times 12? _____
16.	8 times 10? _____	10 times 12?_____	9 times 9? _____
17.	11 times 5? _____	7 times 12? _____	8 times 12? _____
18.	11 times 11? _____	5 times 12? _____	8 times 11? _____
19.	11 times 9? _____	10 times 10?_____	12 times 11? _____

LESSON 47

Name _____

PRACTICAL LESSON 30

Day of the Week _____

OBJECTIVES

- Learn that the product of two numbers does not depend on order such that a x b = b x a
- Identify abstract, multiplicands, concrete multiplicands, and denominations

Directions: Children complete the following problems.

1. If 4 x 6 is 24, what is 6 x 4? _____
2. If 12 x 11 is 132, what is 11 x 12? _____
3. If 10 x 12 is 120, what is 12 x 10? _____
4. If 7 x 8 is 56, what is 8 x 7? _____
5. If 8 x 9 is 72, what is 9 x 8? _____
6. Circle the *abstract multiplicand* in the multiplication equation below.

   5 x 2 = 10

7. Circle the *concrete multiplicand* in the multiplication equation below.

   5 x 2 dogs = 10 dogs

8. Fill in the *denomination* of the product in the multiplication equation below.

   3 pounds x 4 = 12 _____

9. Fill in the *denomination* of the product in the multiplication equation below.

   5 pencils x 5 = 25 _____

LESSON 48

Name _____

INTELLECTUAL LESSON 14 Day of the Week _____

OBJECTIVES

- Read and solve the multiplication word problems

Directions: Children complete the following problems.

1. At 2 cents each, what will 7 oranges cost? _____
2. At 7 cents each, what will 3 melons cost? _____
3. At 6 cents a dozen, what will 5 dozen apples cost? _____
4. At 8 cents a pound, what will 7 pounds of beef cost? _____
5. At $6 a pound, what will 8 pounds of opium cost? _____
6. At $3 a barrel, what will 9 barrels of cider cost? _____
7. At $4 a pair, what is the cost of 7 pairs of boots? _____
8. At 8 cents a dozen, what will 10 dozen pens cost? _____
9. What is the cost of 6 yards of cloth at $7 a yard? _____
10. What do 8 barrels of flour cost at $5 a barrel? _____
11. If a man travels 7 miles an hour, how far will he travel in 8 hours? _____
12. On a chess-board are 8 rows of squares, and 8 squares in each row: how many squares on the board? _____
13. An orchard has 11 rows of trees, and 7 trees in each row: how many trees in the orchard? _____
14. What will 9 yards of cloth cost at $6 a yard? _____

15. What will 9 oranges cost at 8 cents each? _____

16. What will 8 quarts of berries cost at 12 cents a quart? _____

17. Two men start from the same place and travel in opposite directions: one travels 2 miles an hour, the other 4 miles an hour: how far will they be apart at the end of 3 hours? _____

18. If 2 men can do a job of work in 3 days, how many days will it take 1 man to do it? _____

19. If 3 men can do a piece of work in 4 days, in how many days can 1 man do it? _____

20. If 4 men can do a piece of work in 6 days, in how many days can 1 man do it? _____

21. If a quantity of bread serves 8 men 4 days, how many days will it serve 1 man? _____

22. If a man can earn $6 in 1 week, how many dollars can he earn in 8 weeks? _____

23. A person has a piece of work which 7 men can do in 9 days; but it is necessary to have it done in 1 day: how many men must be employed? _____

24. If $9 worth of provisions last 8 persons 11 days, how many persons will it last 1 day? _____

25. I bought 6 barrels of apples at $2 a barrel, and 4 barrels of sugar at $11 a barrel: how much did they both cost? _____

LESSON 49

Name _____

INTELLECTUAL LESSON 15 Day of the Week _____

OBJECTIVES

- Read and solve word problems

Directions: Children complete the following problems.

1. Bought 2 apples at 2 cents each, 2 pears at 3 cents each, and an orange for 5 cents: what did all cost? _____

2. Two men start from the same place and travel in the same direction; one, 5 miles an hour; the other, 7 miles an hour: how far will they be apart in 10 hours? _____

3. If, in the above question, the men travel in opposite directions, how far will they be apart in 12 hours? _____

4. A lady went shopping with $15; she bought 4 yards of cloth at $2 a yard; 2 pairs of gloves at $ 1 a pair; and a shawl for $2: what did all cost, and how much had she left? _____

5. A man bought 4 peaches at 5 cents each, 3 pears at 3 cents each, and 2 pints of chestnuts at 5 cents a pint: how much did they cost? _____

6. What is the sum of 3 and 9 and 7, less the sum of 8 and 6 and 1? _____

7. If a man earns 5 shillings a day, and a boy 3 shillings, how much will both earn in 7 days? _____

8. A drover gave $10 and 7 sheep, valued at $4 a head, for a cow and calf: how much did they cost? _____

9. A merchant sold cloth at $7 a yard: a tailor bought of this cloth, at one time, 5 yards, and, at another, 3 yards: what was the amount of his bill? _____

10. Two brothers, Henry and Eufus, each received for his work 3 dimes a day: how much did both receive for 6 days' work? _____

11. If 12 horses can be sustained in a pasture 10 months, how many horses will it feed 1 month? _____

12. What is 3 times the difference between 15 and the sum of 5 and 2? _____

13. The sum of two numbers is 23; the smaller is 11: what is 5 times the larger? _____

14. The difference between two numbers is 7: if the larger be 12, what will 8 times the smaller be? _____

15. If a boy buys 10 cents worth of apples at 1 cent each, and sell them for 3 cents each, how much will he make? _____

16. George bought a book for 50 cents and sold it for $1: what would he have made had he bought 2 books, and sold them at the same rate as the first? _____

17. Albert has 5 times 2 marbles less than 50, and Edward has 5 times 2 more than 50: how many has each? How many more has Edward than Albert? _____

18. If $3 gains $1 in a year, what will $12 gain in double the time?

19. A man bought a cask of wine containing 20 gallons, at $1 a gallon; 5 gallons having leaked out, he sold the remainder at $2 a gallon: how much did he make? _____

20. If two men travel in the same direction, one 10 miles and the other 7 miles an hour, how far will they be apart in 7 hours? _____

21. A stage starts from a certain town, and travels at the rate of 8 miles per hour: at the same time, another starts from the same place, and travels in the same direction, 4 miles per hour: how far will they be apart at the end of 12 hours? _____

22. A grocer bought 10 pounds of tea at 7 shillings a pound; after using 3 pounds, he sold the remainder at 10 shillings a pound: how much did the 3 pounds which he used cost him in the end? _____

23. Bought 6 quarts of berries, at 8 cents a quart; sold 4 quarts, at 10 cents a quart, and 2 quarts, at 12 cents a quart: how much did I make? _____

24. If an orange costs 5 cents, and an apple 2 cents, what will 2 oranges and 4 apples cost? _____

25. If pork is 8 cents, and beef 10 cents a pound, what will 7 pounds of pork and 6 pounds of beef cost? _____

26. If an orange costs 5 times as much as an apple, how much more will 6 oranges cost than 25 apples, if an apple is worth 1 cent? _____

27. Bought, at one time, 5 yards of muslin, at 10 cents a yard; at another, 10 yards, at 5 cents a yard: how much did it all cost? _____

28. If a man earns $15 per week, and spend $11 a week, how much will he save in 3 weeks? How much can he save in 8 weeks? _____

29. A miller bought 10 bushels of wheat, at 1 dollar a bushel, from which he made 2 barrels of flour that were sold at 7 dollars each: how much more did he get for the flour than he paid for the wheat? _____

30. Thomas has 8 books, and his brother has five times as many less 6: how many books have both? _____

31. What will 9 pounds of figs cost, at 12 cents a pound?

32. A man employed one laborer for 6 weeks, at 7 dollars a week, and another for 5 days, at 2 dollars a day: how much did he have to pay both? _____

33. A farmer sold 5 dozen eggs, at 11 cents a dozen, and bought 3 pounds of sugar, at 12 cents a pound: how many cents were due him? _____

34. Seven times 9 are how many? _____

35. How many are 2 times 3 times 4? _____

36. How many are 4 times 3 times 12? _____

37. A man bought a calf for 11 dollars and paid six times as much for a cow: how much did both cost him? _____

38. Give the product of 8 multiplied by 8. _____

LESSON 50

Name _____

PRACTICAL LESSON 31 Day of the Week _____

OBJECTIVES

- Solve multiplication problems

Directions: Children complete the following problems, placing the numbers in columns and showing their work.

1. How many yards of cloth are there in 3 pieces, each containing 123 yards?
2. What will 2 houses cost at $231 each?
3. What will 3 horses cost at $132 each?
4. What is the product of 201 x 4?
5. What is the product of 2301 x 3?
6. At $43 an acre, what will 5 acres of land cost?

	(7)	(8)	(9)	(10)
Multiplicand	5142	4182	3172	41834
Multiplier	5	6	5	7
Product				

11. Multiply 49 by 3.

12. Multiply 57 by 4.

13. Multiply 128 by 5.

14. Multiply 367 by 6.

15. Multiply 1427 by 7.

16. Multiply 19645 by 8.

17. Multiply 44386 by 9.

18. Multiply 708324 by 7.

19. Multiply 96432 by 10.

20. Multiply 46782 by 11.

21. Multiply 86458 by 12.

22. What is the product of 43 x 25?

23. Multiply 2345 by 123.

24. Multiply 327 by 203.

25. 235 x 13

26. 346 x 19

27. 425 x 29

28. 518 x 34

29. 279 x 37

30. 869 x 49

31. 294 x 57

32. 429 x 62

33. 485 x 76

34. 624 x 85

35. 976 x 97

36. 342 x 364

37. 376 x 526

38. 476 x 536

39. 2187 x 215

40. 3489 x 276

41. 1646 x 365

42. 8432 x 635

43. Multiply 6874 by 829.

44. Multiply 2873 by 1823.

45. Multiply 4786 by 3497.

46. Multiply 87603 by 9865.

47. Multiply 83457 by 6835.

48. Multiply 31624 by 7138.

49. What will 126 barrels of flour cost, at $6 a barrel?

50. What will 823 barrels of pork cost, at $12 a barrel?

51. What will 675 pounds of cheese cost, at 13 cents a pound?

52. What will 496 bushels of oats cost, at 24 cents a bushel?

53. If a man travels 28 miles a day, how many miles will he travel in 152 days?

54. There are 1760 yards in one mile: how many yards are there in 209 miles?

55. There are 24 hours in a day, and 365 days in a year: if a ship sails 8 miles an hour, how far will she sail in a year?

56. Multiply two thousand and twenty-nine by one thousand and seven.

57. Multiply eighty thousand four hundred and one by sixty thousand and seven.

58. Multiply one hundred and one thousand and thirty-two by 20001.

59. A grocer bought 2 barrels of sugar, each weighing 215 pounds, for 8 cents a pound: how much did he pay for the sugar?

60. A grocer bought a barrel of molasses, containing 36 gallons, for 45 cents a gallon; and sold it for 55 cents a gallon: how much did he gain?

61. A commission merchant sold 2650 bushels of wheat for a farmer, at 95 cents a bushel, and charged him 2 cents a bushel for selling: how much money was due the farmer?

62. A farmer bought 6 horses of one man for 75 dollars each, and 5 horses of another for 125 dollars each, and sold them all for 150 dollars each: how many dollars did he gain?

63. A merchant bought one box of goods for 250 dollars, two more for 325 dollars each, and three more for 175 dollars each; he sold them all so as to gain 356 dollars: for how much did he sell them?

64. A farmer bought 24 sheep, at 5 dollars a head; 36 hogs, at 14 dollars a head; and 9 cows, at 45 dollars a head: when he sold them all, he lost 275 dollars: for how much did he sell them?

65. To 75 X 37 add 85 X 54, and subtract 5284.

66. To 69 X 53 add 48 X 27, and subtract 4279.

67. I bought 50 bags of coffee, averaging 63 pounds in a bag, paying 34 cents a pound: how much did it cost?

LESSON 51

Name _____

TEST ARTICLE 31

Day of the Week _____

OBJECTIVE

- Review or test students on Article 31 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. 326 x 5 = ?
2. 734 x 6 = ?
3. 459 x 7 = ?
4. 386 x 8 = ?
5. 597 x 6 = ?
6. 678 x 4 = ?
7. 5678 x 8 = ?
8. 9768 x 7 = ?

9. 7678 x 5 = ?

10. 8986 x 9 = ?

11. 5846 x 7 = ?

12. 6967 x 8 = ?

13. 783419 x 3 = ?

14. 605628 x 7 = ?

15. 577237 x 8 = ?

16. 409846 x 7 = ?

17. 391055 x 6 = ?

18. 732364 x 5 = ?

19. 694573 x 9 = ?

20. 806782 x 7 = ?

21. 798990 x 8 = ?

22. 680401 x 6 = ?

23. 474692 x 5 = ?

24. 696283 x 8 = ?

25. 467670984 x 8 = ?

26. 288076589 x 7 = ?

27. 668948078 x 9 = ?

28. 701539548 x 11 = ?

29. 933697658 x 10 = ?

30. 845786793 x 8 = ?

31. 457868839 x 9 = ?

32. 766854729 x 7 = ?

33. 870896697 x 9 = ?

34. 287 x 23 = ?

35. 493 x 22 = ?

36. 391 x 24 = ?

37. 465 x 34 = ?

38. 386 x 25 = ?

39. 472 x 26 = ?

40. 951 x 35 = ?

41. 587 x 36 = ?

42. 958 x 37 = ?

43. 6254 x 42 = ?

44. 3873 x 47 = ?

45. 6485 x 43 = ?

46. 3129 x 58 = ?

47. 7654 x 69 = ?

48. 8397 x 42 = ?

49. 6549 x 83 = ?

50. 2386 x 94 = ?

51. 786 x 97 = ?

52. 458 x 69 = ?

53. 6083 x 48 = ?

54. 769 x 316 = ?

55. 846 x 527 = ?

56. 846 x 906 = ?

57. 938 x 238 = ?

58. 938 x 709 = ?

59. 776 x 483 = ?

60. 987 x 904 = ?

61. 3456 x 895 = ?

62. 4567 x 786 = ?

63. 5678 x 607 = ?

64. 6789 x 568 = ?

65. 7894 x 409 = ?

66. Multiply 8945 by 645.

67. Multiply 48075 by 376.

68. Multiply 6908 by 489.

69. Multiply 629075 by 3089.

70. Multiply 738306 by 4605.

71. Multiply 923874 by 3837.

72. Multiply 8877655 by 4657.

73. Multiply 1357986 by 5783.

74. Multiply 4378078 by 6329.

75. Multiply 2468642 by 3759.

76. What cost 93 horses at $75 apiece?

77. What cost 75 horses at $93 apiece?

78. How many yards of thread on 84 spools, holding 196 yards each?

79. What will 9568 bushels of wheat cost, at 127 cents a bushel?

80. A butcher sells 2657 pounds of beef, daily, for 93 days. Find the total amount sold.

81. A book contains 288 pages; and each page, 840 cms. How many ems in the book?

82. What is the total capacity of 46 freight cars, each holding 14260 pounds?

83. What will it cost to grade 257 miles of road at $385 a mile?

84. How many links in 289 chains, each chain having 743 links?

85. A horse can draw a load of 1423 pounds. How much could 85 horses draw?

86. A company of soldiers contains 85 men. How many men in 67 companies?

87. A lot is 287 feet front, and worth $162 for each front foot. What is the lot worth?

88. If 2347568 gallons of water pass a certain point in a river in one hour, how many gallons will pass in 48 hours?

89. How far will a star go in 75 days, if it goes 1267893 miles per day?

90. A barrel of flour contains 196 pounds. Find the weight of 472 barrels.

91. What must be paid for grading a railroad 327 miles long, at $1237 a mile?

92. How many peach trees can be planted on 179 acres, each acre having 256?

93. If a seine contains 4365 yards of twine, how many yards will be required for 483 seines?

94. What will be the weight of 96 horses, estimating them at 1387 pounds apiece?

95. If the circulation of a library is 24306 volumes daily, how many would that be in 297 days?

96. If 829 men could dig a canal bed in 248 days, how many men would be required to complete the work in one day?

LESSON 52

Name _____

PRACTICAL LESSON 32 Day of the Week _____

OBJECTIVES

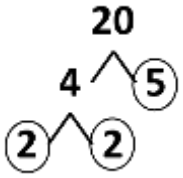
- Solve CASE I multiplication problems when the multiplier can be separated into factors

Part 1 Directions: Separate each value into factors.

Examples:

Since 2 x 5 = 10, 10 can be separated into the factors of 2 and 5.

Since 4 x 5 = 20 and 2 x 2 = 4, 20 can be separated into the factors of 2 and 2 and 5. Drawing a tree and circling the factors that can separated no further may assist students in the decomposition as follows.



1. 6 can be separated into the factors _____ and _____.
2. 10 can be separated into the factors _____ and _____.
3. 21 can be separated into the factors _____ and _____.
4. 121 can be separated into the factors _____ and _____.
5. 18 can be separated into the factors _____ and _____ and _____.
6. 30 can be separated into the factors _____ and _____ and _____.
7. 42 can be separated into the factors _____ and _____ and _____.
8. 90 can be separated into the factors _____ and _____ and _____ and _____.

Part 2 Directions: Separate each value into two or more factors, multiply the multiplicand by one of the factors, and this product by another factor, till every factor is used. The final product is the answer. Show all work.

1. What will 15 oranges cost, at 8 cents each?

2. What will 24 acres of land cost, at $124 an acre?

3. How far will a ship sail in 56 weeks, at the rate of 1512 miles per week?

4. How many pounds of iron are there in 54 loads, each weighing 2873 pounds?

5. Multiply 2874 by 72.

6. Multiply 8074 by 108.

LESSON 53

Name _____

TEST ARTICLE 32

Day of the Week _____

OBJECTIVE

- Review or test students on Article 32 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. 47384 x 63 = _____
2. 60872 x 132 = _____
3. 346891 x 77 = _____
4. 7205674 x 27 = _____
5. 889793 x 72 = _____
6. 426312 x 44 = _____

7. 3784931 x 45 = _____

8. 6292558 x 96 = _____

9. 3490175 x 66 = _____

10. 768793 x 35 = _____

11. 453312 x 42 = _____

12. 673944 x 108 = _____

13. 483576 x 64 = _____

14. 363108 x 144 = _____

15. 273733 x 88 = _____

16. 903465 x 81 = _____

17. 693197 x 48 = _____

18. 843839 x 84 = ?

19. 783571 x 55 = _____

20. 932186 x 56 = _____

LESSON 54

Name _____

PRACTICAL LESSON 33 Day of the Week _____

OBJECTIVES

- Solve CASE II multiplication problems when the multiplier is 1 followed by some number of zeros

Directions: Solve each problem by adding the as many zeros to the multiplicand as there are zeros in the multiplier.

1. Multiply 245 by 100. _____
2. Multiply 138 by 1000. _____
3. Multiply 428 by 10000. _____
4. Multiply 872 by 100000. _____
5. Multiply 9642 by 1000000. _____
6. Multiply 10045 by 1000000. _____

LESSON 55

Name _____

TEST ARTICLE 33

Day of the Week _____

OBJECTIVE

- Review or test students on Article 33 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. 28734 x 1000 = _____
2. 49865 x 100 = _____
3. 6200945 x 1000 = _____
4. 384503 x 10000 = _____
5. 468357 x 100 = _____
6. 40050008 x 1000 = _____
7. 40070893 x 100000 = _____
8. 37088900 x 1000 = _____
9. 26893845 x 10000 = _____
10. 34779267 x 100 = _____
11. 48596023 x 100000 = _____
12. 76540063 x 1000 = _____

LESSON 56

Name _____

PRACTICAL LESSON 34 Day of the Week _____

OBJECTIVES

- Solve CASE III multiplication problems one or both factors have zeros at the right.

Directions: Solve each problem by factoring the multiplicand or multiplier into a value that is a power of 10 (e.g. 10, 100, 1000).

1. Find the product of 625 by 500.

2. Find the product of 2300 by 170.

3. Multiply 2350 by 60.

4. Multiply 80300 by 450.

5. Multiply 10240 by 3200.

6. Multiply 9600 by 2400.

7. Multiply 18001 by 26000.

8. Multiply 8602 by 1030.

9. Multiply 3007 by 9100.

10. Multiply 80600 by 7002.

11. Multiply 70302 by 80300.

12. Multiply 904000 by 10200.

LESSON 57

Name _____

TEST ARTICLE 34

Day of the Week _____

OBJECTIVE

- Review or test students on Article 34 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

Multiply the following values:

1. 590 by 45.

2. 4732 by 730.

3. 66450 by 6600.

4. 38700 by 40800.

5. 96050 by 39000.

6. 483200 by 79610.

7. 738512 by 4850000.

8. 400400 by 640800.

9. 5008 by 50790.

10. 60904 by 384000.

11. 706004 by 80400000.

12. 209800 by 606600.

13. 345678 by 78050000.

14. 46003 by 90020.

15. 97623 by 5648000.

16. 87410 by 809300.

17. 53820 by 256700000.

18. 6767600 by 4760000.

19. 948372 by 138200.

20. 21101 by 6095000.

LESSON 58

Name _____

INTELLECTUAL LESSON 16 Day of the Week _____

OBJECTIVE

- Solve division problems with divisors up to 45

Directions: Solve the following problems.

1. At 1 cent each, how many cakes can you buy for 4 cents? _____

2. At 2 cents each, how many apples can you buy for 4 cents? _____

3. Among how many boys can G apples be divided, giving to each boy 2 apples? _____

4. At 2 cents each, how many apples can you buy for 8 cents? _____

5. At 3 cents each, how many peaches can you buy for 6 cents? _____

6. At 3 cents each, how many pears can you buy for 9 cents? _____

7. At 2 cents each, how many cakes can you buy for 10 cents? _____

8. At 2 cents each, how many balls can you buy for 14 cents? _____

9. At 5 cents each, how many lemons can you buy for 15 cents? _____

10. A boy has 16 marbles, and wishes to divide them into piles of 2 each: how many piles must there be? _____

11. At 3 cents each, how many plums can you buy for 18 cents? _____

12. At 5 cents each, how many oranges can you buy for 20 cents? _____

13. At $3 a yard, how many yards of cloth can you buy for $21? _____

14. A lady spent 22 cents for tape at 2 cents a yard: how many yards did she buy? _____

15. At 6 cents each:
    a. How many oranges can you buy for 24 cents? _____

    b. How many at 8 cents each? _____

16. In an orchard of 25 apple trees there are 5 rows: how many trees in each row? _____

17. If a man can travel 3 miles in an hour, how many hours will it take him to travel 27 miles? _____

18. A man gave $28 for sheep, at $4 a head: how many did he buy? _____

19. If you had 30 cents, how many marbles could you buy at 3 cents each? _____

20. There are 32 dimes on a table in 4 piles: how many in each pile? _____

21. In an orchard containing 35 apple trees, there are 5 rows: how many trees are there in each row? _____

22. Six men receive $36 for a job of work: what is each man's share? _____

23. Four quarts make 1 gallon: how many gallons in 36 quarts? _____

24. If a man travels 10 miles in 1 hour, in how many hours will he travel 40 miles? _____

25. Forty-two cents were divided equally among 6 boys: how many cents did each boy receive? _____

26. If you divide 45 oranges equally among 9 boys: how many oranges will each boy receive? _____

LESSON 59

Name _____

PRACTICAL ARTICLE 35 Day of the Week _____

OBJECTIVE

- Solve division word problems

Directions: Solve the following problems.

1.
   a. If you divide 6 apples equally between 2 boys, how many will each boy have? _____
   b. How many times 2 in 6? _____

2. If you divide 8 peaches equally between 2 boys, how many will each have? _____

3. How many times 2 in 10? _____

LESSON 60

Name _____

PRACTICAL ARTICLE 36

Day of the Week _____

OBJECTIVE

- Solve division equations

Directions: Solve the following problems.

1. Circle the *divisor* in the division equation below.

   $10 \div 2 = 5$

2. Circle the *dividend* in the division equation below.

   $30 \div 5 = 6$

3. Circle the *quotient* in the division equation below.

   $120 \div 10 = 12$

4. Place a circle around the *dividend*, a square around the *divisor*, and a diamond around the *quotient* in the division equation below.

   $81 \div 9 = 9$

5. Circle the two factors in the division equation below.

   $80 \div 4 = 20$

LESSON 61

Name _____

PRACTICAL ARTICLE 37 Day of the Week _____

OBJECTIVE

- Understand that division is a short method of making many subtractions of the same number

Directions: Solve the following problems.

1. How many times can 2 be subtracted from 8? _____
2. 8 ÷ 2 = ? _____
3. How many times can 4 be subtracted from 20? _____
4. 20 ÷ 4 = ? _____
5. How many times can 10 be subtracted from 100? _____
6. 100 ÷ 10 = ? _____
7. How many times can 33 be subtracted from 99? _____
8. 99 ÷ 33 = ? _____

LESSON 62

Name _____

INTELLECTUAL LESSON 17 Day of the Week _____

OBJECTIVE

- Solve division table problems with divisors up to 144

Directions: Solve the following problems.

2 ÷ 2 = _____	3 ÷ 3 = _____	4 ÷ 4 = _____
4 ÷ 2 = _____	6 ÷ 3 = _____	8 ÷ 4 = _____
6 ÷ 2 = _____	9 ÷ 3 = _____	12 ÷ 4 = _____
8 ÷ 2 = _____	12 ÷ 3 = _____	16 ÷ 4 = _____
10 ÷ 2 = _____	15 ÷ 3 = _____	20 ÷ 4 = _____
12 ÷ 2 = _____	18 ÷ 3 = _____	24 ÷ 4 = _____
14 ÷ 2 = _____	21 ÷ 3 = _____	28 ÷ 4 = _____
16 ÷ 2 = _____	24 ÷ 3 = _____	32 ÷ 4 = _____
18 ÷ 2 = _____	27 ÷ 3 = _____	36 ÷ 4 = _____
20 ÷ 2 = _____	30 ÷ 3 = _____	40 ÷ 4 = _____
22 ÷ 2 = _____	33 ÷ 3 = _____	44 ÷ 4 = _____
24 ÷ 2 = _____	36 ÷ 3 = _____	48 ÷ 4 = _____

5 ÷ 5 = _____	6 ÷ 6 = _____	7 ÷ 7 = _____
10 ÷ 5 = _____	12 ÷ 6 = _____	14 ÷ 7 = _____
15 ÷ 5 = _____	18 ÷ 6 = _____	21 ÷ 7 = _____
20 ÷ 5 = _____	24 ÷ 6 = _____	28 ÷ 7 = _____
25 ÷ 5 = _____	30 ÷ 6 = _____	35 ÷ 7 = _____
30 ÷ 5 = _____	36 ÷ 6 = _____	42 ÷ 7 = _____
35 ÷ 5 = _____	42 ÷ 6 = _____	49 ÷ 7 = _____
40 ÷ 5 = _____	48 ÷ 6 = _____	56 ÷ 7 = _____
45 ÷ 5 = _____	54 ÷ 6 = _____	63 ÷ 7 = _____
50 ÷ 5 = _____	60 ÷ 6 = _____	70 ÷ 7 = _____
55 ÷ 5 = _____	66 ÷ 6 = _____	77 ÷ 7 = _____
60 ÷ 5 = _____	72 ÷ 6 = _____	84 ÷ 7 = _____

8 ÷ 8 = _____	9 ÷ 9 = _____	10 ÷ 10 = _____
16 ÷ 8 = _____	18 ÷ 9 = _____	20 ÷ 10 = _____
24 ÷ 8 = _____	27 ÷ 9 = _____	30 ÷ 10 = _____
32 ÷ 8 = _____	36 ÷ 9 = _____	40 ÷ 10 = _____
40 ÷ 8 = _____	45 ÷ 9 = _____	50 ÷ 10 = _____
48 ÷ 8 = _____	54 ÷ 9 = _____	60 ÷ 10 = _____
56 ÷ 8 = _____	63 ÷ 9 = _____	70 ÷ 10 = _____
64 ÷ 8 = _____	72 ÷ 9 = _____	80 ÷ 10 = _____
72 ÷ 8 = _____	81 ÷ 9 = _____	90 ÷ 10 = _____
80 ÷ 8 = _____	90 ÷ 9 = _____	100 ÷ 10 = _____
88 ÷ 8 = _____	99 ÷ 9 = _____	110 ÷ 10 = _____
96 ÷ 8 = _____	108 ÷ 9 = _____	120 ÷ 10 = _____

11 ÷ 11 = _____

22 ÷ 11 = _____

33 ÷ 11 = _____

44 ÷ 11 = _____

55 ÷ 11 = _____

66 ÷ 11 = _____

77 ÷ 11 = _____

88 ÷ 11 = _____

99 ÷ 11 = _____

110 ÷ 11 = _____

121 ÷ 11 = _____

132 ÷ 11 = _____

12÷12 = _____

24 ÷ 12 = _____

36 ÷ 12 = _____

48 ÷ 12 = _____

60 ÷ 12 = _____

72 ÷ 12 = _____

84 ÷ 12 = _____

96 ÷ 12 = _____

108 ÷ 12 = _____

120 ÷ 12 = _____

132 ÷ 12 = _____

144 ÷ 12 = _____

LESSON 63

Name _____

PRACTICAL ARTICLE 38 Day of the Week _____

OBJECTIVE

- Express division equations using standard representations

Directions: Solve the following problem and complete the table.

1. Represent 20 divided by 5 in the three ways as shown in the lesson.

1 ÷ 1 = _____	2 ÷ 2 = _____	3 ÷ 3 = _____	4 ÷ 4 = _____
2 ÷ 1 = _____	4 ÷ 2 = _____	6 ÷ 3 = _____	8 ÷ 4 = _____
3 ÷ 1 = _____	6 ÷ 2 = _____	9 ÷ 3 = _____	12 ÷ 4 = _____
4 ÷ 1 = _____	8 ÷ 2 = _____	12 ÷ 3 = _____	16 ÷ 4 = _____
5 ÷ 1 = _____	10 ÷ 2 = _____	15 ÷ 3 = _____	20 ÷ 4 = _____
6 ÷ 1 = _____	12 ÷ 2 = _____	18 ÷ 3 = _____	24 ÷ 4 = _____
7 ÷ 1 = _____	14 ÷ 2 = _____	21 ÷ 3 = _____	28 ÷ 4 = _____
8 ÷ 1 = _____	16 ÷ 2 = _____	24 ÷ 3 = _____	32 ÷ 4 = _____
9 ÷ 1 = _____	18 ÷ 2 = _____	27 ÷ 3 = _____	36 ÷ 4 = _____
10 ÷ 1 = _____	20 ÷ 2 = _____	30 ÷ 3 = _____	40 ÷ 4 = _____
11 ÷ 1 = _____	22 ÷ 2 = _____	33 ÷ 3 = _____	44 ÷ 4 = _____
12 ÷ 1 = _____	24 ÷ 2 = _____	36 ÷ 3 = _____	48 ÷ 4 = _____

5 ÷ 5 = _____	6 ÷ 6 = _____	7 ÷ 7 = _____
10 ÷ 5 = _____	12 ÷ 6 = _____	14 ÷ 7 = _____
15 ÷ 5 = _____	18 ÷ 6 = _____	21 ÷ 7 = _____
20 ÷ 5 = _____	24 ÷ 6 = _____	28 ÷ 7 = _____
25 ÷ 5 = _____	30 ÷ 6 = _____	35 ÷ 7 = _____
30 ÷ 5 = _____	36 ÷ 6 = _____	42 ÷ 7 = _____
35 ÷ 5 = _____	42 ÷ 6 = _____	49 ÷ 7 = _____
40 ÷ 5 = _____	48 ÷ 6 = _____	56 ÷ 7 = _____
45 ÷ 5 = _____	54 ÷ 6 = _____	63 ÷ 7 = _____
50 ÷ 5 = _____	60 ÷ 6 = _____	70 ÷ 7 = _____
55 ÷ 5 = _____	66 ÷ 6 = _____	77 ÷ 7 = _____
60 ÷ 5 = _____	72 ÷ 6 = _____	84 ÷ 7 = _____

8 ÷ 8 = _____	9 ÷ 9 = _____	10 ÷ 10 = _____
16 ÷ 8 = _____	18 ÷ 9 = _____	20 ÷ 10 = _____
24 ÷ 8 = _____	27 ÷ 9 = _____	30 ÷ 10 = _____
32 ÷ 8 = _____	36 ÷ 9 = _____	40 ÷ 10 = _____
40 ÷ 8 = _____	45 ÷ 9 = _____	50 ÷ 10 = _____
48 ÷ 8 = _____	54 ÷ 9 = _____	60 ÷ 10 = _____
56 ÷ 8 = _____	63 ÷ 9 = _____	70 ÷ 10 = _____
64 ÷ 8 = _____	72 ÷ 9 = _____	80 ÷ 10 = _____
72 ÷ 8 = _____	81 ÷ 9 = _____	90 ÷ 10 = _____
80 ÷ 8 = _____	90 ÷ 9 = _____	100 ÷ 10 = _____
88 ÷ 8 = _____	99 ÷ 9 = _____	110 ÷ 10 = _____
96 ÷ 8 = _____	108 ÷ 9 = _____	120 ÷ 10 = _____

11 ÷ 11 = _____

22 ÷ 11 = _____

33 ÷ 11 = _____

44 ÷ 11 = _____

55 ÷ 11 = _____

66 ÷ 11 = _____

77 ÷ 11 = _____

88 ÷ 11 = _____

99 ÷ 11 = _____

110 ÷ 11 = _____

121 ÷ 11 = _____

132 ÷ 11 = _____

12÷12 = _____

24 ÷ 12 = _____

36 ÷ 12 = _____

48 ÷ 12 = _____

60 ÷ 12 = _____

72 ÷ 12 = _____

84 ÷ 12 = _____

96 ÷ 12 = _____

108 ÷ 12 = _____

120 ÷ 12 = _____

132 ÷ 12 = _____

144 ÷ 12 = _____

LESSON 64

Name _____

INTELLECTUAL LESSON 18 Day of the Week _____

OBJECTIVE

- Solve division equations and word problems

Directions: Solve the following problems.

1. Two is contained in 12 how many times? _____

2.
   a. Two in 16 how many times? _____
   b. 2 in 24? _____
   c. 3 in 9? _____
   d. 5 in 15? _____
   e. 3 in 21? _____
   f. 3 in 27? _____
   g. 4 in 8? _____
   h. 4 in 20? _____
   i. 4 in 28? _____

3.
   a. 4 in 36? _____
   b. 4 in 48? _____

4.
   a. Five is contained in 15 how many times? _____
   b. 5 in 30? _____
   c. 5 in 45? _____
   d. 5 in 60? _____
   e. 6 in 18? _____
   f. 6 in 24? _____
   g. 6 in 36? _____
   h. 6 in 42? _____
   i. 6 in 54? _____
   j. 6 in 66? _____

5.

a. Seven in 14 how many times? _____
b. 7 in 28? _____
c. 7 in 42? _____
d. 7 in 56? _____
e. 7 in 63? _____
f. 7 in 84? _____
g. 8 in 24? _____
h. 8 in 40? _____
i. 8 in 56? _____
j. 8 in 72? _____
k. 8 in 96? _____

6.

a. Nine in 18 how many times? _____
b. 9 in 27? _____
c. 9 in 45? _____
d. 9 in 54? _____
e. 9 in 63? _____
f. 9 in 81? _____
g. 9 in 108? _____
h. 10 in 20? _____
i. 10 in 60? _____
j. 10 in 90? _____
k. 10 in 100? _____

7.

a. Eleven in 55 how many times? _____
b. 11 in 77? _____
c. 11 in 99? _____
d. 11 in 110? _____
e. 11 in 121? _____
f. 12 in 24? _____
g. 12 in 48? _____
h. 12 in 60? _____
i. 12 in 72? _____
j. 12 in 96? _____
k. 12 in 108? _____
l. 12 in 120? _____
m. 12 in 144? _____

8. If 12 peaches be divided equally among 3 children, how many will each child have? _____

9. Four boys gave their sister 24 apples, each an equal number: how many did each give? _____

10. A mother divided 20 cents equally between her 2 little girls: how many did each receive? _____

11. Five books cost 35 cents: how much is that apiece? _____

12. A man has $40: if he spends $5 a week, how long will it last? _____

13.
    a. If 5 apples are worth 1 pear, how many pears are 25 apples worth? _____
    b. 35 apples? _____
    c. 45 apples? _____

14.
    a. If 6 pears are worth an orange, how many oranges can you get for 30 pears? _____
    b. For 42 pears? _____
    c. For 54 pears? _____
    d. For 66 pears? _____

15. If 1 man does a piece of work in 42 days, how many days will it take 7 men to perform it? _____

16. If 1 man can eat a certain quantity of provisions in 56 days, how many days will it last 7 men? _____

17. If 1 pipe empties a cistern in 63 hours, in how many hours will 9 pipes of the same size empty it? _____

18.
    a. If hay is worth $9 a ton, how many tons can be bought for $27? _____
    b. For $45? _____
    c. For $54? _____
    d. For $63? _____

19. Ten men bought a horse for $60: how much did each one pay? _____

20. If 11 ounces of powder cost 88 cents: what will 1 ounce cost? _____

21. A man paid $108 for 12 merino sheep: how much was that apiece? _____

22. In an orchard there are 120 trees in 10 rows: how many trees in each row? _____

23.
    a. A man earns $144 in 12 weeks: how much is that a week? _____
    b. How much a day, allowing 6 working days to the week? _____

24. If 6 men earn $84 in 7 days, how much does each man earn in 1 day? _____

25. If 9 men earn $108 in 3 days, how much does 1 man earn? How much does each man earn in 1 day? _____

26. One man travels at the rate of 15 miles in 3 days; another at the rate of 20 miles in 2 days: how much further in one day does the latter travel than the former? _____

LESSON 65

Name _____

INTELLECTUAL LESSON 19

Day of the Week _____

OBJECTIVE

- Solve division equations and word problems

Directions: Solve the following problems.

1. Twelve is how many times 2? _____

2.
   a. Twenty-four is how many times 3? _____
   b. Times 6? _____
   c. Times 8? _____
   d. Times 12? _____

3.
   a. Seventy-two is how many times 12? _____
   b. Seventy-two is how many times 8? _____
   c. Seventy-two is how many times 6? _____
   d. Seventy-two is how many times 9? _____

4. How many oranges, at 5 cents each, must be given for 10 pears, at 2 cents each?

5. A wheel is 10 feet in circumference: how many revolutions will it make in going 120 feet?

6. An orchard contains 10 rows of trees, and 6 trees in a row; if there were but 5 rows, how many trees would there be in a row?

7. I have three times as many marbles as the sum of 1, 2, and 3, is contained times in 60: how many have I?

8. Bought 6 hats, at 85 apiece, and 4 yards of cloth, at $3 a yard; gave in exchange flour, at $6 a barrel: how many barrels did it take?

9. If a man gain 6 miles in 5 hours, how long will it take to gain 24 miles?

10. Two times 6 are contained how many times in the sum of 36 and 12?

11. If 60 be divided by some number, the result will be 10: what is that number?

12. I have a number in my mind which, divided by 3, gives 2 times 6: what is the number?

13. If I purchase lemons at the rate of 2 for 6 cents, and sell 7 for 28 cents, how much do I gain?

14. A man has a job of work which 9 men can perform in 2 days; he desires to complete it in 3 days: how many men must he employ?

15. Five times the sum of two numbers is equal to 60; if 7 is one of them, what is the other?

16. Henry has 6 dimes; Thomas, twice as many less 2; and Samuel, 3 times as many as Henry: how many have they together?

17. If to the number of times 4 is contained in 12, you add 3, and subtract the result from 9, what will remain?

18. Five oranges were sold for 25 cents, and 10 cents were gained: what did each cost?

19. What number subtracted from 17, will leave double the remainder that 5 from 9 leaves?

20. A boy said that 10 taken from the number of apples he had, left twice as great a remainder as the difference between 12 and 8: how- many had he?

21. If you multiply any number, 10, by any other number, 5, and divide the product by the same number, 5, what will be the result?

22. If 2 oranges are worth 5 apples, how many apples are 12 oranges worth?

23. One man goes 10 miles while another goes 7; when the first has gone 90 miles, how far has the second gone?

24. James earns 8 cents while John earns 12; when John has earned 60, how many has James earned?

25. George recites 5 lessons while Charles recites 4; how many lessons have both recited when Charles has recited 20?

26. A man earns $9 while a boy earns $5: how many dollars have both earned when the man has earned $36?

27. A certain number multiplied by 10 is 5 less than 45: what is that number?

28. How many barrels of flour, at 89 a barrel, could you buy for $54?

29. William counts 11 while James counts 7: how many does James count while William is counting 77?

30. How many yards of velvet, at $12 a yard, can be obtained for $108?

31. If 8 sheep cost $56, how much will 3 sheep cost?

32. At 4 cents a pound, how many pounds of salt can you buy with 44 cents?

33. If a man travels at the rate of 10 miles an hour, how long will it take him to go 100 miles?

34. How many men can in 5 days do a piece of work which occupies 3 men 10 days?

35. How many men can in 3 days do the same amount of work that employs 9 men 4 days?

LESSON 66

Name _____

PRACTICAL ARTICLE 39

Day of the Week _____

OBJECTIVE

- Identify the remainder of a division problem

Directions: Solve the following problems.

1. 7 divided by 3 is 2 plus 1 left over. What is the remainder? _____
2. 29 divided by 5 is 5 plus 4 left over? What is the remainder? _____
3. 105 divided by 10 is 10 plus 5 left over? What is the remainder? _____
4. 50 divided by 7 is 7 plus 1 left over? What is the remainder? _____
5. What is the remainder of 13 ÷ 2? _____
6. What is the remainder of 13 ÷ 3? _____
7. What is the remainder of 13 ÷ 4? _____
8. What is the remainder of 13 ÷ 5? _____
9. What is the remainder of 13 ÷ 6? _____
10. What is the remainder of 13 ÷ 7? _____

LESSON 67

Name _____

PRACTICAL ARTICLE 40 Day of the Week _____

OBJECTIVE

- Solve short division problems mentally

Directions: Solve the following problems mentally.

1. How many times is 2 contained in 468? _____
2. How many times 3 in 693? _____
3. How many times 4 in 848? _____
4. How many times 2 in 4682? _____
5. How many times 4 in 8408? _____
6. How many times 3 in 36936? _____
7. How many times 2 in 88468? _____

LESSON 68

Name _____

PRACTICAL ARTICLE 41 Day of the Week _____

OBJECTIVE

- Solve division problems involving simple numbers

Directions: Solve the following problems.

1. How many times is 3 contained in 129?

2. How many times is 3 contained in 735?

3. How many times is 3 contained in 618?

4. How many times is 3 contained in 609?

5. How many times is 3 contained in 743?

6. How many times 3 in 462?

7. How many times 5 in 1170?

8. How many times 4 in 948?

9. Divide 653 cents by 3.

10. Prove that 454212 divided by 6 is equal to 75702.

11. Prove that 874293 divided by 7 is equal to 124899.

12. Prove that 3756031 divided by 8 is equal to 469503 remainder 7.

13. Divide 8652 by 2.

14. Divide 406235 by 3.

15. Divide 675043 by 4.

16. Divide 984275 by 5.

17. Divide 258703 by 6.

18. Divide 8643275 by 7.

19. Divide 6032520 by 8.

20. Divide 9032706 by 9.

21. Divide 1830024 by 10.

22. Divide 603251 by 11.

23. Divide 41674008 by 12.

24. If oranges cost 3 cents each, how many can be bought for 894 cents?

25. If 4 bushels of apples cost 140 cents, how much is that a bushel?

26. If flour cost $4 a barrel, how many barrels can be bought for $812?

27. A carpenter receives $423 for 9 months' work: how much is that a month?

28. There are 12 months in 1 year: how many years are there in 540 months?

29. There are 4 quarts in 1 gallon: how many gallons are there in 321276 quarts?

30. At $8 a barrel, how many barrels of flour can be bought for $1736?

31. There are 7 days in one week: how many weeks are there in 734506 days?

32. A number has been multiplied by 11, and the product is 495: what is the number?

33. The product of two numbers is 3582: one of the numbers is 9: what is the other?

34. Find one-half of 56.

35. Find one-half of 3725.

36. Find one-third of 147.

37. Find one-fourth of 500.

38. Find one-fifth of 1945.

39. Find one-sixth of 4476.

40. Find one-seventh of 2513.

41. Find one-eighth of 5992.

42. Find one-ninth of 8793.

43. Find one-tenth of 1090.

44. Find one-eleventh of 4125.

45. Find one-twelfth of 5556.

46. I divided 144 apples equally among 4 boys; the eldest boy gave one-third of his share to his sister: what number did the sister receive?

47. James found 195 cents, and gave to Daniel one-fifth of them: Daniel gave one-third of his share to his sister: how many cents did she receive?

48. One-eleventh of 275 is how much greater than one-eighth of 192?

LESSON 69

Name _____

TEST ARTICLE 41

Day of the Week _____

OBJECTIVE

- Solve short division problems.

Directions: Solve the following problems.

Divide:

1. 45678936 by 3.

2. 43218765 by 5.

3. 9999992660 by 7.

4. 807006935 by 5.

5. 392919096 by 8.

6. 987652308 by 4.

7. 987652308 by 6.

8. 111111111 by 9.

9. 222222222 by 6.

10. 21026838 by 3.

11. 74060259 by 7.

12. 76587692 by 4.

13. 723645000 by 8.

14. 876543210 by 9.

15. 9876543215 by 7.

16. 346800270 by 5.

17. 6001674864 by 3.

18. 3031674804 by 6.

19. 345680528 by 4.

20. 759274400 by 8.

21. 39291993 by 9.

22. 876543210 by 6.

23. 392919096 by 4.

24. 123456128 by 8.

25. 350364075 by 5.

26. 5555558400 by 7.

27. 618170472 by 9.

28. 617180742 by 6.

29. 1001002002 by 3.

30. 406052983 by 7.

31. Find one fourth of 3738392.

32. Find one eighth of 7360576.

33. Find one third of 26688111.

34. Find one ninth of 28880109.

35. Find one sixth of 45500196.

36. What is one fifth of 56009800?

37. What is one seventh of 54985448?

38. What is one ninth of 23401881?

39. What is one fourth of 23601880?

40. Four men earn $2968: how much is that for each of them?

41. How many 6-pound balls will be required to weigh 7644 pounds?

42. How many hats can be bought for $2075, at $5 apiece?

43. In one week there are 7 days: how many weeks in 8429435 days?

44. A man earns $972 in 6 months: how much is that per month?

45. A car can go 8 miles in an hour: how long will it take it to go 4560 miles?

46. How many 5-gallon jugs can be filled from 2520 gallons of molasses?

47. $3450 was raised among some merchants, each paying $6: how many were there?

48. Five passenger cars can carry 360 persons: how many is that for each car?

49. Eight stoves weigh 2792 pounds: what is the weight of each?

50. A railroad train can go 3003 miles in 7 days: how far is that each day?

51. How long will it take, a man to earn $896, if his wages are $7 a week?

52. How many blank books can be made from 5552 sheets of paper, if each book contains 8 sheets?

53. A man dying left $16814 to be equally divided among 7 children: what was the share of each?

54. A bar of soap weighs 4 pounds: how many bars will be required to weigh 9996 pounds?

55. At $6 a day, how many days will be required to earn $1638?

56. How many sashes, of six panes each, can be filled from 7776 panes of glass?

57. If the Government pays $9256320 of debt in 9 months, how much would that be per month?

58. If 125616 soldiers were divided equally into 8 divisions, how many soldiers would that be for each division?

59. How many sixes would it take to make 16008?

LESSON 70

Name _____

PRACTICAL ARTICLE 42 Day of the Week _____

OBJECTIVE

- Solve division problems using long division, showing all work

Directions: Solve the following problems.

1. Divide 3465 dollars equally among 15 men.

2. In 147095 days, how many years, each of 365 days?

3. Divide 4056 by 13.

4. Divide 78994 by 319. Prove that your answer is correct.

5. Divide 11577 by 14.

6. Divide 48690 by 15.

7. Divide 1110960 by 23.

8. Divide 122878 by 67.

9. Divide 12412 by 53.

10. Divide 146304 by 72.

11. Divide 47100 by 54.

12. Divide 71104 by 88.

13. Divide 43956 by 66.

14. Divide 121900 by 99.

15. Divide 25312 by 112.

16. Divide 381600 by 123.

17. Divide 105672 by 204.

18. Divide 600000 by 1234.

19. Divide 1234567 by 4321.

20. Divide 50964242 by 7819.

21. Divide 48905952 by 9876.

22. Divide 4049160 by 12345.

23. Divide 552160000 by 973

24. At $15 an acre, how many acres of land can be bought for $3465?

25. If a man travels 26 miles a day, in how many days will he travel 364 miles?

26. If $1083 be divided equally among 19 men, how many dollars will each have?

27. A man raised 9523 bushels of corn on 107 acres: how much was that on one acre?

28. In 1 hogshead there are 63 gallons: how many hogsheads in 14868 gallons?

29. The President receives $50000 a year (365 days): how much is that a day?

30. The yearly income from a railroad is $379600: how much is that a day? (365 da. — 1 yr.)

31. The product of two numbers is 6571435; one of the factors is 1235: what is the other?

32. Divide one million two hundred and forty-seven thousand four hundred by 405.

33. Divide 10 million four hundred and one thousand by one thousand and six.

34. A colony of 684 men bought a tract of land, containing 109440 acres: if equally divided, to how many acres was each man entitled?

35. A farmer raised 8288 bushels of corn, averaging 56 bushels to the acre: how many acres did he plant?

36. The capital of a joint-stock company is $262275, and is divided into 269 shares: what is the value of each share?

37. The earth, at the equator, is about 24899 miles in circumference, and turns on its axis once in 24 hours: how many miles an hour does it turn?

38. A railroad, 238 miles long, cost $3731840: what was the cost per mile?

39. A fort is 27048 feet distant from a city; the flash of a cannon was seen 24 seconds before the sound was heard: how many feet a second did the sound travel?

40. Light travels at the rate of 11520000 miles a minute: how many minutes does it require for the light of the sun to reach the earth, the sun being 92160000 miles distant?

41. Subtract 86247 from 94231 and divide the remainder by 16.

42. Divide the sum of 46712 and 6848 by 104.

43. Divide the product of 497 X 583 by 71.

44. To the difference between 2832 and 987 add 678, and divide the sum by 87.

45. Multiply the difference between 4896 and 2384 by 49, and divide the product by 112.

46. Multiply the sum of 228 -f 786 by 95, and divide the product by 114.

47. Multiply the sum of 478 and 296 by their difference, and divide the product by 387.

48. A horse-dealer received $7560 for horses; he sold a part of them for $3885; if he sold the rest for $175 apiece, how many horses did he sell the second time?

49. A farmer expended at one time $7350 for land, and at another, $4655, paying $49 an acre each time: how many acres did he buy in both purchases?

50. A refiner bought 58 hogsheads of sugar, at $77 a hogshead, and afterward sold them for $5742: how much did he gain on each hogshead?

51. A man bought 240 acres of land, at $26 an acre, giving in payment a house valued at $2820, and horses valued at $180 apiece: how many horses did he give?

52. A speculator bought 25 acres of land for $10625, arid after dividing it into 125 village lots, sold each lot for $250:
    a. How much did he gain on the whole? _____
    b. On each acre? _____
    c. On each lot? _____

LESSON 71

Name _____

TEST ARTICLE 42 Day of the Week _____

OBJECTIVE

- Solve long division problems.

Directions: Solve the following long division problems.

1. 84878 by 31.

2. 223686 by 51.

3. 328233 by 71.

4. 220867 by 41.

5. 898716 by 91.

6. 356500 by 92.

7. 380398 by 82.

8. 675000 by 72.

9. 241552 by 62.

10. 309557 by 43.

11. 1674123 by 33.

12. 6582564 by 83.

13. 3766110 by 94.

14. 2997592 by 74.

15. 4832460 by 54.

16. 1362768 by 44.

17. 3323232 by 36.

18. 3323232 by 48.

19. 1009827 by 27.

20. 1501305 by 39.

21. 4141387 by 59.

22. 38739176 by 19.

23. 45806266 by 902.

24. 18757711 by 611.

25. 48512520 by 713.

26. 16379005 by 421.

27. 45000000 by 338.

28. 15349839 by 771.

29. 36517449 by 893.

30. 11998679 by 197.

31. Divide 240158529 by 6201.

32. Divide 292246250 by 4138.

33. Divide 37021447680 by 9085.

34. Divide 100200300400 by 8251.

35. 234567891000 ÷ 3456 = ?

36. 345678912000 ÷ 4567 = ?

37. 456789123000 ÷ 5678 = ?

38. At 47 cents apiece, how many hammers can be bought for 18565 cents?

39. How many cars, each 24 feet long, can be placed upon a track 3744 feet long?

40. If 986 pounds is a load for one horse, how many horses will be required to carry 493986 pounds?

41. What will one horse cost, if the bill for 293 horses is $89365?

42. How many sewing machines, at $65 each, can be bought for $4225?

43. If a foundry consume 428 bushels of coal in a day, how long will 121980 bushels last?

44. A man traveled 5341 miles in 109 days: how far was that each day?

45. How many years would be required to pay a debt of $2004002154, if $13013001 are paid yearly?

46. A turnpike was constructed at a cost of $2765 per mile, and the total cost was $215670: how long was the road?

47. Divide 57 million 114 thousand and 57 by 19019.

48. If 56 pounds of rye make a bushel, how many bushels would be required to weigh 93744 pounds?

49. 83 iron columns weigh 764264 pounds: find the weight of each.

50. By what number must 706126 be divided to give 89 for a quotient?

51. By what number must 4328 be multiplied, so that the product may be 8331400?

52. If a short-hand writer can write 125 words in a minute, how long will he require to write 13375 words?

53. What was the length of one piece of cloth, if 193 pieces measured 36477 yards?

LESSON 72

Name _____

PRACTICAL ARTICLE 43 Day of the Week _____

OBJECTIVE

- Solve division problems by separating the divisor into factors and dividing the dividend by each factor

Directions: Solve the following problems by 1) Separating the divisor into factors, and 2) Dividing the dividend by each factor to find the quotient. If there are remainders, multiply the second remainder by the first divisor and add to the first remainder to calculate the total remainder.

1. A man paid $255 for 15 acres of land: how much was that per acre? (15 = 3x5 - Divide by 3 and then 5.)

2. Find the quotient of 37, divided by 14. (14 = 2x7 – Divide by 2 and then 7. Multiply the second remainder (4) by the first divisor (2) and add to the first remainder (1).)

3. Divide 2583 by 63. (63 = 7x9).

4. Divide 6976 by 32. (32 = 4x8).

5. Divide 2744 by 28. (28 = 7x4).

6. Divide 6145 by 42. (42 = 6x7).

7. Divide 19008 by 132.

8. Divide 7840 by 64.

9. Divide 14771 by 72.

10. Divide 10206 by 81.

11. Divide 81344 by 121.

12. Divide 98272 by 108.

LESSON 73

Name _____

TEST ARTICLE 43 Day of the Week _____

OBJECTIVE

- Solve division problems.

Directions: Solve the following division problems.

Divide:

1. 4524 by 24.

2. 455364 by 36.

3. 372518 by 32.

4. 2736595 by 45.

5. 4728392 by 48.

6. 1168384 by 56.

7. 13413501 by 27.

8. 3742015 by 28.

9. 27253746 by 18.

10. 47351850 by 25.

11. 11111111 by 42.

12. 3579135 by 63.

LESSON 74

Name _____

PRACTICAL ARTICLE 44 Day of the Week _____

OBJECTIVE

- Solve division problems involving a divisor of a one with zeros annexed, as in 10, 100, and 1000.

Directions: Solve the following problems by cutting off as many figures as there are zeros in the divisor. The figures cut off are the remainder.

1. Divide 34872 by 100. _____
2. Divide 2682 by 10. _____
3. Divide 4700 by 100. _____
4. Divide 37201 by 100. _____
5. Divide 46250 by 100. _____
6. Divide 18003 by 1000. _____

LESSON 75

Name _____

TEST ARTICLE 44 Day of the Week _____

OBJECTIVE

- Solve division problems.

Directions: Solve the following division problems.

1. Divide 47389256 by 1000.

2. Divide 367854001 by 100.

3. Divide 27000008746 by 10000.

4. Divide 1234567892 by 100.

5. Divide 3704605504 by 1000.

6. Divide 9897969594 by 100000.

7. Divide 130027005 by 100.

8. Divide 123843658 by one thousand.

9. Divide 44872362592 by one million.

10. Divide 5000700040 by ten thousand.

11. Divide 37264839527 by ten.

12. Divide 43 million by one hundred.

13. Divide 12345654321 by one thousand.

14. Divide 754000000000400 by one billion.

15. Divide 47638592143 by ten thousand.

LESSON 76

Name _____

PRACTICAL ARTICLE 45 Day of the Week _____

OBJECTIVE

- Solve division problems involving zeros on the right of the divisor or the divisor and the dividend.

Directions: Solve the following problems.

1. Divide 4072 by 800.

2. Divide 77939 by 2400.

3. Divide 62700 by 2500.

4. Divide 73005 by 4000.

5. Divide 36001 by 9000.

6. Divide 1078000 by 11000.

7. Divide 40167 by 180.

8. Divide 907237 by 2100.

9. Divide 364006 by 6400.

10. Divide 76546037 by 250000.

11. Divide 43563754 by 63400.

LESSON 77

Name _____

TEST ARTICLE 45

Day of the Week _____

OBJECTIVE

- Solve division problems.

Directions: Solve the following division problems.

1. Divide 472956 by 40.

2. Divide 124578013 by 140.

3. Divide 56789324 by 8000.

4. Divide 3438725382 by 1900.

5. Divide 263341058 by 470.

6. Divide 738495262 by 4050.

7. Divide 3213213313 by 8800.

8. Divide 345456567 by 3400.

9. Divide 765472384 by 107000.

10. Divide 9236453400000 by 7200.

11. Divide one billion by 706700.

12. Divide 397 billion by 97 thousand.

13. Divide 56784935867 by 3050600.

14. Divide 999999999 by 90990.

LESSON 78

Name _____

PRACTICAL ARTICLE 46 Day of the Week _____

OBJECTIVE

- Learn that if the dividend be multiplied, or the divisor divided, the quotient will be multiplied.

Directions: Solve the following problems by filling in the blanks.

1. Given 24 ÷ 6 = 4

   (24 **x 2**) ÷ 6 = (4 x _____)

2. Given 100 ÷ 10 = 10

   (100 **x 2**) ÷ 10 = (10 x _____)

3. Given 200 ÷ 50 = 4

   (200 **x 2**) ÷ 50 = (4 x _____)

4. Given 45 ÷ 9 = 5

   45 ÷ (9 **÷ 3**) = (4 x _____)

5. Given 80 ÷ 8 = 10

   80 ÷ (8 **÷ 4**) = (10 x _____)

6. Given 99 ÷ 9 = 11

   99 ÷ (9 **÷ 9**) = (11 x _____)

7. Given 75 ÷ 25 = 3

   75 ÷ (25 **÷ 5**) = (3 x _____)

LESSON 79

Name _____

PRACTICAL ARTICLE 47

Day of the Week _____

OBJECTIVE

- Learn that if the dividend be divided, or the divisor multiplied, the quotient will be divided.

Directions: Solve the following problems by filling in the blanks.

1. Given 24 ÷ 6 = 4

   (24 **÷ 2**) ÷ 6 = (4 ÷ _____)

2. Given 100 ÷ 10 = 10

   (100 **÷ 2**) ÷ 10 = (10 ÷ _____)

3. Given 200 ÷ 50 = 4

   (200 **÷ 2**) ÷ 50 = (4 ÷ _____)

4. Given 90 ÷ 3 = 30

   90 ÷ (3 **x 3**) = (30 ÷ _____)

5. Given 80 ÷ 8 = 10

   80 ÷ (8 **x 2**) = (10 ÷ _____)

6. Given 99 ÷ 11 = 9

   (99 **÷ 3**) ÷ 11 = (9 ÷ _____)

7. Given 150 ÷ 25 = 6

   150 ÷ (25 **x 3**) = (6 ÷ _____)

LESSON 80

Name _____

PRACTICAL ARTICLE 48

Day of the Week _____

OBJECTIVE

- Learn that if the both the dividend and the divisor are multiplied by the same number, the quotient will not be changed.

Directions: Solve the following problems by filling in the blanks.

1. Given 24 ÷ 6 = 4

   (24 **x 2**) ÷ (6 x _____) = 4

2. Given 100 ÷ 10 = 10

   (100 **x 3**) ÷ (10 x _____) = 10

3. Given 200 ÷ 50 = 4

   (200 **x 7**) ÷ (50 x _____) = 4

4. Given 90 ÷ 3 = 30

   (90 x _____) ÷ (3 **x 13**) = 30

5. Given 80 ÷ 8 = 10

   (80 x _____) ÷ (8 **x 25**) = 10

6. Given 99 ÷ 11 = 9

   (99 x _____) ÷ (11 **x 253**) = 9

7. Given 150 ÷ 25 = 4

   (150 x _____) ÷ (25 **x 1254343**) = 4

LESSON 81

Name _____

PRACTICAL ARTICLE 49 Day of the Week _____

OBJECTIVE

- Solve a variety of arithmetic problems.

Directions: Solve the following problems.

1. In 4 bags are $500; in the first, $96; in the second, $120; in the third, $55: what sum in the 4th bag?

2. Four men paid $1265 for land: the first paid $243; the second $61 more than the first; the third $79 less than the second: how much did the fourth man pay?

3. I have five apple trees: the first bears 157 apples; the second, 264; the third, 305; the fourth, 97; the fifth, 123: I sell 428, and 186 are stolen: how many apples are left?

4. In an army of 57068 men, 9503 are killed; 586 join the enemy; 4794 are prisoners; 1234 die of wounds; 850 are drowned: how many return?

5. On the first of the year a speculator is worth $12307: during the year he gains $8706; in January he spends $237; in February, $301; in each of the remaining ten months he spends $538: how much had he at the end of the year?

6. The Bible has 31173 verses: in how many days can I read it, by reading 86 verses a day?

7. I bought 28 horses for $1400: 3 died; for how much each must I sell the rest to incur no loss?

8. How many times can I fill a 15-gallon cask, from 5 hogsheads of 63 gallons each?

9. A certain dividend is 73900; the quotient 214; the remainder, 70: what is the divisor?

10. Multiply the sum of 148 and 56 by their difference; divide the product by 23.

11. How much woolen cloth, at $6 a yard, will it take to pay for 8 horses at $60 each, and 14 cows at $45 each?

12. Two men paid $6000 for a farm: one man took 70 acres at $30 an acre, the other the remainder at $25 an acre: how many acres in all?

13. My income is $1800 a year. If I spend $360 a year for provisions, $300 for rent, $150 for clothing, $100 for books, and $90 for incidentals, in how many years can I save $10400?

14. A man bought 40 acres of ground at $15 an acre, and 80 acres at $25 an acre. He sold 90 acres for $4500, and the remainder at $60 an acre:
    a. For how much did he sell the whole land?

    b. How much did he gain?

15. A merchant bought 275 yards of cloth at $4 a yard; he sold 250 yards at $5 a yard, and the remainder at $6 a yard: how much did he gain?

16. A broker buys 125 shares of stock for $85 a share, and 75 shares at $115 a share. He invests it all in other stock at $175 a share: how many shares does he get by the last purchase?

17. A farmer sends to a dealer 20 horses and 15 mules to be sold. The dealer sells the horses for $125 each, and the mules for $150 each, charging $95 for selling. The farmer then buys 50 head of cattle at $45 each, with part of the money, and deposits the remainder in bank: how much does he deposit in bank?

LESSON 82

Name _____

TEST ARTICLE 49 Day of the Week _____

OBJECTIVE

- Solve division problems.

Directions: Solve the following division problems.

1. Bought 60 cows at $33 apiece, and 47 at S28 apiece: what was the total cost?

2. What cost 47 hogsheads, each containing 48 gallons of molasses, at 65 cents a gallon?

3. Had 96 horses; 3 died, and the others were sold at $150 apiece. What sum was received for them?

4. A man having $10000, kept $307, and with the rest bought land at $27 an acre. How many acres did he buy?

5. Multiply the sum of 209 and 390 by their difference.

6. Two men had $8550 apiece; one bought cows at $38 each, the other cows at $45 each. How many more did the first buy than the second?

7. Eighty-seven horses were sold at $155 apiece, and the money invested in mules at $93 apiece. How many mules were bought?

8. Four times 1728 are how many less than 10000?

9. Raised 65 bushels of potatoes on each of 85 acres of land; used 180 bushels, and sold the remainder at 63 cents -a bushel. How much was received for them?

10. Four men were in partnership, having in all $8560; the first had $2140, the second $3076, and the third and fourth had equal sums. How much had each of the latter?

11. 66 horses were bought at $127 apiece; sold one third at $125 apiece, and the remainder at $135 apiece. What was my gain on all?

12. I have a lot 65 feet front, worth $175 per front foot; if I trade for a farm of 126 acres, worth $90 an acre, how much cash should I receive?

13. Divide 312 x 273 by 312 — 273.

14. Forty-eight men can build a bridge in 187 days; how many must be employed to build it in 176 days?

15. Seventy-three horses eat 101835 pounds of hay in 93 days; how much was that daily for each horse?

16. A man borrows $6000, and pays $400 a year for the use of it; how much should he pay back at the end of 4 years?

17. What sum will be received for 137 acres of land, which cost $75 per acre, and were sold at a gain of $49 per acre?

18. What sum will be received for 354 acres of land, which cost $29 per acre, and were sold at a gain of $94?

19. A man received a legacy of $8273; he paid $131 expenses, and with the remainder bought bonds at $118 apiece; how many did he buy?

20. If a sewing machine is worth $45, how many sewing machines must be traded for 117 watches at $65 apiece?

21. How much must be paid for 45 turkeys, so that 95 cents may be gained by selling them at 87 cents apiece?

22. The dividend was 39 times 552, and the divisor 299: find the quotient.

23. Bought 882 acres of woodland; after clearing one ninth of it, I sold the cleared land at $18 an acre, and the. woodland at $11 an acre. How much did I receive in all?

24. If a number will contain 322 ninety-six times, how many times will it contain 69?

25. Bought 48 cows at $32 apiece, and 20 horses at $100 apiece; sold them so as to gain $200. What did I receive for them all?

26. A banker buys 52 shares of stock for $5824; for how much must he sell them to gain $8 a share?

27. Bought 293 hogsheads of sugar at $58 apiece; for how much must I sell it to gain $7?

28. A pile of lumber weighing 89039 pounds lost one seventh of its weight in drying: what did it then weigh?

29. How many 20-gallon casks can be filled from 395 barrels of molasses of 48 gallons each?

30. Sold 47 wagons at $50 apiece, and after buying a farm had $495 left. What was the cost of the farm?

31. What number must be multiplied by 47 to make the product equal to the difference between 987 and 11797?

32. What number must be divided by 73 to make the quotient equal to the sum of 456 and 2893?

33. Spent $8880 for horses at $74 apiece; 23 died: how many remain?

34. If 93 horses cost $19158, how many can be bought for $79310?

35. Bought hogs for $893, and sold them at $11 apiece, gaining $9; how many did I buy?

36. Of what number is 526 both divisor and quotient?

37. If 36 men earn $6912 in 12 weeks, how much does each earn per week?

38. How often is one fourth of one thousand contained in one fifth of one million?

39. After selling 68 cows, at $42 apiece, how much must I borrow if 1 wish to buy 209 hogs at $14 apiece?

40. Sold 923 yards of my cloth at $4 a yard, and the remainder at $5 a yard, and received in all $5222. How many yards had I at first?

41. If 47 men, in 58 weeks, can dig 215354 yards of ditch, how many yards can 29 men dig in 47 weeks?

42. If an army of 23479 men consume 2653127 pounds of food in a month, how many pounds would be required per month after 4839 men have been killed?

43. Bought 356 acres for $2848, and sold at $11 per acre: how much did I gain?

44. 59375 yards of bunting were bought to make a certain number of flags, 19 yards being intended for each; if 5 yards more are needed for each flag, how much more bunting must be bought?

45. Received $5850 for 18 months' rent; the rent was then raised $20 per month. What was the rent for the next 12 months?

46. A car will carry 11700 pounds; what is the weight of a boat-load of wheat which lacks 250 pounds of tilling 23 cars?

47. If an acre of ground will produce 52 bushels of turnips or 70 bushels of potatoes, how many bushels of potatoes can be raised on a farm that will produce 9100 bushels of turnips?

48. What number exceeds one ninth of 3096 as much as one eighth of 3096 exceeds one tenth of 3690?

49. Bought land for $8370, and sold it at $31 an acre, losing $248. How many acres were there?

50. A man having $25725, kept one third, and invested the remainder in land at $49 per acre: how many acres did he purchase?

51. Bought 135 mules at $115 apiece; sold one fifth of them at a gain of $18 apiece, and the others at a gain of $16 apiece. What was my total gain?

52. A man has a farm of 260 acres; on each acre he can raise 35 bushels of oats, worth 93 cents a bushel, or 130 bushels of potatoes, worth 24 cents a bushel. How much more would he realize from oats than from potatoes?

53. From 8 times 7317 take 9 times 5328, and divide the result by the difference between one eighth of 504 and one ninth of 1008.

LESSON 83

Name _____

PRACTICAL ARTICLE 50 Day of the Week _____

OBJECTIVE

- Identify compound numbers.

Directions: Circle any of the following values that are compound numbers.

1. 5
2. 5 hours
3. 5 hours 15 minutes
4. 23 minutes 45 seconds
5. 1 yard
6. 1 yard 2 feet
7. 2 feet
8. 2 feet 4 inches
9. 200
10. 200 dollars
11. 200 dollars 10 cents
12. $2.56
13. 15 days
14. 2 years 15 days

LESSON 84

Name _____

PRACTICAL ARTICLE 51 Day of the Week _____

OBJECTIVE

- Solve reduction problems.

Directions: Solve the following reduction problems.

1. Given there are 3 feet in 1 yard, reduce 9 feet to yards. _____
2. Given there are 3 feet in 1 yard, reduce 9 yards to feet. _____
3. Given there are 60 seconds in 1 minute, reduce 360 seconds to minutes. _____
4. Given there are 60 seconds in 1 minute, reduce 5 minutes to seconds. _____
5. Given there are 60 minutes in 1 hour, reduce 120 minutes to hours. _____
6. Given there are 60 minutes in 1 hour, reduce 10 hours to minutes. _____
7. Given there are 365 days in 1 year, reduce 730 days to years. _____
8. Given there are 365 days in 1 year, reduce 3 years to days. _____

LESSON 85

Name _____

PRACTICAL ARTICLE 52

Day of the Week _____

OBJECTIVE

- Consult a table to answer questions.

COIN.	VALUE.	COMPOSITION.	WEIGHT.
BRONZE.			
One cent.	1 cent.	95 parts copper, 5 parts tin & zinc.	48 grains Troy.
NICKEL.			
3-cent piece.	3 cents.	75 parts copper, 25 parts nickel.	30 grains Troy.
5-cent piece.	5 cents.	75 " " 25 " "	73.16 " "
SILVER.			
Dime.	10 cents.	90 parts silver, 10 parts copper.	2.5 grams.
Quarter dollar.	25 cents.	90 " " 10 " "	6.25 "
Half dollar.	50 cents.	90 " " 10 " "	12.5 "
Dollar.	100 cents.	90 " " 10 " "	412½ grains Troy.
GOLD.			
Dollar.	100 cents.	90 parts gold, 10 parts copper.	25.8 grains Troy.
Quarter eagle.	2½ dollars.	90 " " 10 " "	64.5 " "
Three dollar.	3 dollars.	90 " " 10 " "	77.4 " "
Half eagle.	5 dollars.	90 " " 10 " "	129 " "
Eagle.	10 dollars.	90 " " 10 " "	258 " "
Double eagle.	20 dollars.	90 " " 10 " "	516 " "

1. How much does one bronze cent weigh? _____
2. What is the composition of a 5-cent nickel piece? _____
3. What is the value of a half dollar in cents? _____
4. What is the value of a double eagle in dollars? _____
5. What is the composition of a quarter eagle? _____
6. How much does one dime weigh? _____

LESSON 86

Name _____

PRACTICAL ARTICLE 53 Day of the Week _____

OBJECTIVE

- Read and write sums of money.

Directions: Write the following examples.

1. Twelve dollars seventeen cents eight mills. _____
2. Six dollars six cents six mills. _____
3. Seven dollars seven mills. _____
4. Forty dollars fifty-three cents five mills. _____
5. Two dollars three cents. _____
6. Twenty dollars two cents two mills. _____
7. One hundred dollars ten cents. _____
8. Two hundred dollars two cents. _____
9. Four hundred dollars one cent eight mills. _____

Directions: Read aloud the following examples.

$18.625	$ 70.015	$6.12	$ 29.00
$20.324	$100.28	$3.00	$100.03
$79.05	$150.05	$4.31	$ 20.05
$46.00	$100.00	$5.43	$ 40.125

LESSON 87

Name _____

TEST ARTICLE 53

Day of the Week _____

OBJECTIVE

- Review or test students on Article 53 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

Write the following sums (e.g. $10.37):

1. Thirteen dollars ninety-three cents. _____
2. Eighty-seven dollars forty-nine cents and three mills. _____
3. Twenty-nine dollars and eight cents. _____
4. One hundred and fifty-seven dollars and fifty cents. _____
5. Nine dollars nine cents and nine mills. _____
6. Twelve dollars and two mills. _____
7. Five hundred dollars and ten cents. _____
8. Two hundred dollars and three mills. _____
9. Ninety-nine dollars and ninety cents. _____
10. Ninety dollars and ninety-nine cents. _____

Read the following aloud:

$73.38	$ 34.20	$96.011	$309.806
$73.028	$457.02	$49.102	$4561.25
$70.328	$2.909	$600.888	$3.092
$45.006	$6.099	$100.16	$ .59
$74.05	$5.005	$116.03	$739.11
$300.10	$88.10	$11.603	$46.03
$59.00	$393.25	$821.018	$1000.97

LESSON 88

Name _____

PRACTICAL ARTICLE 54 Day of the Week _____

OBJECTIVE

- Solve problems involving the reduction of money.

Directions: Solve the following problems.

1. Given than there are 10 mills in 1 cent, how many mills are there in 20 cents?
2. Given than there are 10 mills in 1 cent, reduce 20 mills to cents.
3. Given than there are 10 cents in 1 dime, how many cents are there in 30 dimes?
4. Given than there are 10 cents in 1 dime, reduce 30 cents to dimes.
5. Given than there are 100 cents in 1 dollar, how many cents are there in 5 dollars?
6. Given than there are 100 cents in 1 dollar, reduce 300 cents to dollars.
7. Given than there are 1000 mills in 1 dollar, how many mills are there in 5 dollars?
8. Given than there are 1000 mills in 1 dollar, reduce 3000 mills to dollars.

LESSON 89

Name _____

PRACTICAL ARTICLE 55 Day of the Week _____

OBJECTIVE

- Solve problems involving the reduction of money.

Directions: Solve the following problems.

1. Reduce 17 ct. to mills. _____
2. Reduce 28 ct. to mills. _____
3. Reduce 43 ct. and 6 m. to mills. _____
4. Reduce 70 ct. and 6 m. to mills. _____
5. Reduce 106 m. to cents. _____
6. Reduce 490 mills to cents. _____
7. Reduce 9 dollars to cents. _____
8. Reduce 14 dollars to cents. _____
9. Reduce 104 dollars to cents. _____
10. Reduce $60 and 13 ct. to cents. _____
11. Reduce $40 and 5 ct. to cents. _____
12. Reduce 375 ct. to dollars. _____
13. Reduce 9004 ct. to dollars. _____
14. Reduce 4 dollars to mills. _____
15. Reduce $14 and 2 ct. to mills. _____

16. Reduce 2465 mills to dollars. _____

17. Reduce 3007 mills to dollars. _____

18. Reduce 3187 cents to dollars. _____

19. Reduce 10375 mills to dollars. _____

LESSON 90

Name _____

TEST ARTICLE 55

Day of the Week _____

OBJECTIVE

- Review or test students on Article 55 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce $93 to cents. _____
2. Reduce 800 cents to dollars. _____
3. Reduce 46 cents to mills. _____
4. Reduce 187 mills to cents. _____
5. Reduce 76 dimes to cents. _____
6. Reduce $45 to mills. _____
7. Reduce 3009 mills to dollars. _____
8. Reduce $89.17 to cents. _____
9. Reduce $700 to cents. _____
10. Reduce $10000 to mills. _____
11. Reduce 4 dollars 4 cents 4 mills to mills. _____
12. Reduce $467.02 to cents. _____
13. Reduce $467 to cents. _____
14. Reduce $83 and 9 mills to mills. _____
15. Reduce 123000 mills to dollars. _____

LESSON 91

Name _____

PRACTICAL ARTICLE 56 Day of the Week _____

OBJECTIVE

- Solve problems involving the addition of money.

Directions: Solve the following problems.

1. Add together 4 dollars 12 cents 5 mills; 7 dollars 6 cents 2 mills; 20 dollars 43 cents; 10 dollars 5 mills; 16 dollars 87 cents 5 mills.

2. What is the sum of 17 dollars 15 cents; 23 dollars 43 cents; 7 dollars 19 cents; 8 dollars 37 cents; and 12 dollars 31 cents?

3. Add 18 dollars 4 cents 1 mill; 16 dollars 31 cents 7 mills; 100 dollars 50 cents 3 mills; and 87 dollars 33 cents 8 mills.

4. William had the following bills for collection: $43.75; $29.18; $17.63; $268.95; and $718.07: how much was to be collected?

5. Bought a gig for $200; a watch for $43.87; a suit of clothes for $56.93; a hat for $8.50; and a whip for $2.31: what was the amount?

6. A person has due him, five hundred and four dollars six cents; $420.19; one hundred and five dollars fifty cents; $304; $888.47: what is the whole amount due him?

7. Add five dollars seven cents; thirty dollars twenty cents three mills; one hundred dollars five mills; sixty dollars two cents; seven hundred dollars one cent one mill; $1000.10; forty dollars four mills; and $64.587.

LESSON 92

Name _____

TEST ARTICLE 56

Day of the Week _____

OBJECTIVE

- Review or test students on Article 56 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. What is the sum of 19 dollars 85 cents; 43 dollars and 79 cents; 76 dollars and 21 cents; 58 dollars and 15 cents; and 29 dollars and 75 cents?

2. Add $74.19, $15.01, $46.28, $9.60, $17.81, $25.72, $9.93, and $7.46.

3. $7,007+ $70.70 + $7.07+ $77.77+$777.77+$99.00 + $4.683 + $500=?

4. A man owes A $750, B $99.65, C $427.80, D $3.47, E $697.29, F 50 dollars, and G 45 cents. What is his total indebtedness?

5. A man bought 2 coats, costing $7.50 and $18; 2 vests, costing $3.20 and $7.80; 2 pairs of pants, costing $4.60 and $9; 2 hats costing $1.85 and $5.50; and 3 shirts costing $1.75, $1.75 and $3. What did he pay for all?

6. I paid for digging cellar, $59.75; for limestone masonry, $195.40; for freestone, $168.90; for brick-work, $897.60; for carpenter work, $528.65; for tin roof, $179; for iron work, $40.60; for plastering, $237.85; for painting, $153.70; for plumbing, $67.60; for gas-fitting, $39; and for lightning-rods, $78.90. How much did these items cost?

7. Bought a farm for $2750, a horse for $127.50, a cow for $53.60, mules for $286, sheep for $69, hogs for $268.90, a wagon for $60.85, harness $55.60, and plows, harrows, etc., $186.40. How much did I pay for all?

LESSON 93

Name _____

PRACTICAL ARTICLE 57 Day of the Week _____

OBJECTIVE

- Solve problems involving the addition of money.

Directions: Solve the following problems.

1. From one hundred dollars five cents three mills, take eighty dollars twenty cents and seven mills.

2. From $29.342 take $17.265.

3. From $46.28 take $17.75.

4. From $20.05 take $5.50.

5. From $3, take 3 ct.

6. From $10, take 1 mill.

7. From $50, take 50 ct. 5 mills.

8. From one thousand dollars, take one dollar one cent and one mill.

9. Bob owes 1000 dollars 43 cents; if he pays nine hundred dollars sixty-eight cents, how much will he still owe? $

LESSON 94

Name _____

TEST ARTICLE 57

Day of the Week _____

OBJECTIVE

- Review or test students on Article 57 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. From $120.63 take $87.29.

2. Take 839.82 from $90.15.

3. Take $76.09 from $100.

4. $1025 - $800.80=?

5. $90 less 90 cents =?

6. $78.15 less $15.78 =?

7. How much must be taken from $1000 to leave $690.09?

8. A man commenced business with $16208, and lost $1069.40; how much had he then?

9. How much must a man invest, so that after gaining $1690.18 he may have $8008?

10. From $2000 take $739.84 twice.

11. A man owes $529.60, and has $900; how much will he have after paying his debts?

12. A man has $429.13, and owes $600; after paying his money, how much will he still owe?

LESSON 95

Name _____

PRACTICAL ARTICLE 58 Day of the Week _____

OBJECTIVE

- Solve problems involving the multiplication of money.

Directions: Solve the following problems.

1. What will 13 cows cost, at 47 dollars 12 cents 5 mills each?

2. Multiply $7,835 by 8.

3. Multiply $12, 9 ct. 3 m. by 9.

4. Multiply $23, 1 ct. 8 m. by 16.

5. Multiply $35, 14 ct. by 53.

6. Multiply $125, 2 ct. by 62.

7. Multiply $40, 4 ct. by 102.

8. Multiply 12 ct. 5 m. by 17.

9. Multiply $3.28 by 38.

10. What cost 338 barrels of cider, at 1 dollar 6 cents a barrel?

11. Sold 38 cords of wood, at 5 dollars 75 cents a cord: to what did it amount?

12. At 7 ct. a pound, what cost 465 pounds of sugar?

13. What cost 89 yards of sheeting, at 34 ct. a yard?

14. What will 24 yards of cloth cost, at $5.67 a yard?

15. I have 169 sheep, valued at $2.69 each: what is the value of the whole?

16. If I sell 691 bushels of wheat, at $1.25 a bushel, what will it amount to?

17. I sold 73 hogsheads of molasses, of 63 gallons each, at 55 ct. a gallon: what is the sum?

18. What cost 4 barrels of sugar, of 281 pounds each, at 6 cents 5 mills a pound?

19. Bought 35 bolts of tape, of 10 yards each, at 1 cent a yard: what did it cost?

20. If I earn 13 ct. an hour, and work 11 hours a day, how much will I earn in 312 days?

21. I sold 18 bags of wheat, of 3 bushels each, at $1.25 a bushel: what is the amount?

22. What cost 150 acres of land, at 10 dollars 1 mill per acre?

23. What cost 17 bags of coffee, of 51 pounds each, at 24 cents 7 mills per pound?

LESSON 96

Name _____

TEST ARTICLE 58 Day of the Week _____

OBJECTIVE

- Review or test students on Article 58 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Multiply $8,293 by 24.

2. Multiply $9,835 by 36.

3. Multiply $43.75 by 84.

4. Multiply $8,008 by 65.

5. Multiply $9.12 by 60.

6. Multiply $27,008 by 400.

7. Multiply $29,632 by 750.

8. Find 39 times $.636.

9. What is 891 times 13 cents 6 mills?

10. $87, 3 cents X 3000=?

11. $68, 5 mills X 560=?

12. What cost 49 barrels of flour at $6.75 a barrel?

13. What cost 67 acres of land at $159.60 an acre?

14. What must be given for 34 horses at $88.40 each?

15. What cost 54 yards of grading at $7,282 per yard?

16. What must be given for 89 hogs at $8.34 apiece?

17. What cost 956 gallons of vinegar at 12 cents a gallon?

18. What will be paid for 526 quarts of berries at 22 cents a quart?

19. Sold 351 sheep at $2.50 apiece; how much did I receive for them?

20. What cost 5000 tickets at 18 cents apiece?

21. What cost 42357 yards of calico at 8 cents a yard?

22. What cost 4500 bolts at 6 mills each?

23. How much will a man earn in 57 days at $2.25 a day?

24. What cost 40 boxes of starch, containing 33 pounds each, at $.075 per pound?

25. If a soldier receives a pension of $1.75 per month, how much will 38 receive in 19 months?

26. What cost 40 boxes of candy, 40 pounds each, at 40 cents a pound?

27. What cost 808 bales of cotton, containing 465 pounds each, at 3 cents 6 mills per pound?

28. What cost 87 boxes of eggs, each containing 72 dozen, at $.125 per dozen?

29. What cost 9388 papers of pins, each containing 30 dozen pins, at 2 mills per dozen?

30. What will the glass cost for 8 houses, each containing 8 rooms, each room having 4 windows, and each window 4 panes, at 37 cents 5 mills per pane?

31. A man has 10 casks of stove polish, containing 425 pounds each; each pound will fill 6 papers, sold at 5 cents a paper. How much will be received for the entire amount?

32. What cost 40 bundles of paper, containing 2 reams each, each ream weighing 60 pounds, at 8 cents 3 mills per pound?

33. What cost 708 boxes of tomatoes, each containing 24 cans of 2 pounds each, at 11 cents a pound?

34. Find the cost of 82 boxes of calico, each box containing 40 bolts, and each bolt 30 yards, at $.066 per yard.

35. Find the amount received for 5 blocks of building lots, each block containing 12 lots, each lot being 25 feet front, the whole being sold at $8.75 per front foot.

36. What will be the wages of 240 men, employed 17 days, of 10 hours each, at 17 cents 5 mills per hour?

LESSON 97

Name _____

PRACTICAL ARTICLE 59 Day of the Week _____

OBJECTIVE

- Solve problems involving the division of money.

Directions Part 1: Solve the following case I division problems.

1. How much cloth, at 7 cents a yard, will $1.75 buy?

2. How much rice, at 9 cents a pound, can be bought for 72 cents?

3. How many towels, at 37 cents and 5 mills apiece, can be bought for $6?

4. How many yards of calico, at 8 cents a yard, can be bought for $2.80?

5. How many yards of ribbon, at 25 cents a yard, can be purchased for $3?

6. At $8.05 a barrel, how many barrels of flour will $161 purchase?

7. At 7 cents 5 mills each, how many oranges can be bought for $1.20?

8. At $1.125 per bushel, how many bushels of wheat can be purchased for $234?

Directions Part II: Solve the following case II division problems.

1. A man worked 3 days for $3.75, what were his daily wages?

2. A farmer sold 6 bushels of wheat for $9: how much a bushel did he get?

3. Divide 65 dollars equally among 8 persons.

4. A farmer received $29.61 for 23 bushels of wheat: how much was that per bushel?

5. If 4 acres of land cost $92.25, how much is that an acre?

6. Make an equal division of $57.50 among 8 persons.

7. A man received $25.76 for 16 days' work: how much was that a day?

8. I bought 755 bushels of apples for $328.425: what did they cost a bushel?

9. My salary is $800 a year: how much is that a day, there being 313 working days in the year?

10. Divide ten thousand dollars equally among 133 men: what is each man's share?

11. A man purchased a farm of 154 acres, for two thousand seven hundred and five dollars and 1 cent: what did it cost per acre?

12. I sold 15 kegs of butter, of 25 pounds each, for $60: how much was that a pound?

13. I bought 8 barrels of sugar, of 235 pounds each, for $122.20: what did 1 pound cost?

LESSON 98

Name _____

TEST ARTICLE 59

Day of the Week _____

OBJECTIVE

- Review or test students on Article 59 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Divide $49.50 cents by 33 cents.

2. Divide $393.75 by 75 cents.

3. Divide $200 by 32 cents.

4. Divide $333 by 45 cents.

5. Divide $1186.98 by $2.71.

6. Divide $3677.94 by $5 and 4 mills.

7. Divide $1608.88 by 33 cents 8 mills.

8. Divide $2162.45 by 30 cents 5 mills.

9. How much muslin, at 13 cents a yard, can be bought for $23.66?

10. How many sheep, at $3.75 apiece, can be bought for $600?

11. How many needles, at 3 mills apiece, can you buy for $19.38?

12. At $1.25 an acre, how much land can you buy for 8995?

13. How many apples, at 1 cent 5 mills each, must be sold to realize $3?

14. How many planes, costing 85 cents each, can be bought for $129.20?

15. How many 20-cent tickets must be sold to make the receipts $500?

16. Divide $99.48 by 4.

17. Divide $95,004 by 7.

18. Divide $326.36 by 8.

19. Divide $436,032 by 9.

20. Divide $389 by 25.

21. Divide $440.44 by 77.

22. Divide $1500.496 by 491.

23. Divide $4226.427 by 603.

24. Nine horses cost me $1025.01; find the cost of each.

25. Sold 43 bushels of peaches for $120.40; how much was that per bushel?

26. $528.44 was divided equally among 11 heirs; find the share of each.

27. What must I charge per bushel for apples, so as to realize $526.50 for 2340 bushels?

28. 144 penknives cost $90; how much was that apiece?

29. 900 pounds of cheese cost $49.50; how much did one pound cost?

30. 600000 pounds of cotton cost $45000; how much is that per pound?

31. If 40 horses cost $5318, what would 76 horses cost?

32. If 38 men earn $1136.20 in 26 days, what is each man's daily wages?

33. If grape settings sell at $3.50 per hundred, how much is that apiece?

34. What cost 750 pickles at $1.20 per hundred?

35. If 16 chests of tea sell for $460.80, at 60 cents a pound, how many pounds in each chest?

LESSON 99

Name _____

PRACTICAL ARTICLE 60

Day of the Week _____

OBJECTIVE

- Solve word problems involving money.

Directions: Solve the following money word problems.

1. I owe A $47.50; B, $38.45; C, $15.47; D, $19.43: what sum do I owe?

2. A owes $35.25; B, $23.75; C, as much as A and B, and $1 more: what is the amount?

3. A paid me $18.38; B, $81.62; C, twice as much as A and B: how much did I receive?

4. I went to market with $5; I spent for butter 75 cents, for eggs 35 cents, for vegetables 50 cents, for flour $1.50: how much money was left?

5. A lady had $20; she bought a dress for $8.10, shoes for $5.65, eight yards of delaine at 25 cents a yard, and a shawl for $4: what sum was left?

6. I get $50 a month, and spend $30.50 of it: how much will I have left in 6 months?

7. A farmer sold his marketing for $21.75: he paid for sugar $3.85, for tea $1.25, for coffee $2.50, for spices 31.50: how much had he left?

8. I owe A $37.06; B, $200.85; C, $400; D, $236.75, and E $124.34; my property is worth $889.25: how much do I owe more than I am worth?

9. Bought 143 pounds of coffee, at 23 cents a pound: after paying $12.60, what was due?

10. A owed me $400: he paid me 435 bushels of corn, at 45 cents a bushel: what sum is due?

11. If B spend 65 cents a day, how much will he save in 365 days, his income being $400?

12. Bought 21 barrels of apples, of 3 bushels each, at 35 cents a bushel: what did they cost?

13. What cost four pieces of cambric, each containing 19 yards, at 23 cents a yard?

14. If 25 men perform a piece of work for $2000, and spend, while doing it, $163.75, what will be each man's share of the profits?

15. If 16 men receive $516 for 43 days' work, how much does each man earn a day?

16. C earned $90 in 40 days, working 10 hours a day: how much did he earn an hour?

17. A merchant failing, has goods worth $1000, and $500 in cash, to be equally divided among 22 creditors: how much will each receive?

18. Bought 9 pounds Coffee, at $0.32 per lb., 4 pounds Tea at 1.25 do., 45 pounds Sugar .09 do., and 17 pounds Cheese at .20 do. What is the amount of my bill?

19. Bought 22 yards Silk, at $1.75 per yd., 18 yards Muslin at .15 do., 25 yards Linen at .65 do., and 6 yards Gingham and .18 do. What is the whole amount?

20. Bought 4 pounds Prunes at $0. 18 per lb., 8 pounds Peaches at .23 do., 7 pounds Bice at .11 do., 6 pounds Oat-meal at .09 do., 13 pounds Java Coffee at .35 do., and 26 pounds Sugar, at .12 do. What is the whole amount?

21. Bought 43 yards Muslin, at $0.13 per yd., 28 yards Calico at .09 do., and 23 yards Alpaca at .23 do. What is the whole amount?

LESSON 100

Name _____

TEST ARTICLE 60

Day of the Week _____

OBJECTIVE

- Review or test students on Article 60 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Paid for land, $970.50; for buildings, $1963.60; for horses, $180.75; for cattle, $217.50; for seeds, $29.50; for tools, $36.40; for harness, $82.50; for provisions, $200; and for hogs, $319.25. Find the total expenditure.

2. What cost 5 sofas, at $13.75 each, and 7 lounges, at $4.60 each?

3. Gave $108 for 45 yards of cloth, which I sold for $116.10; find my gain per yard.

4. A dealer bought peaches at $2.50 a bushel; how many bushels must he sell, at a profit of 70 cents a bushel, to receive $144?

5. What cost 1750 picture cards at $1.40 a hundred?

6. I saved $104.52 in 6 months; if my salary was $80 a month, what were my expenditures each month?

7. I saved $130.56 in 8 months; if my expenses were $80 a month, what was my monthly salary?

8. What cost 3700 papers at $2.20 a hundred?

9. A company owes $120000, and its assets amount to $30780; the deficit is collected from 15000 shares of stock. How much is that on each share?

10. How much will be left from a hundred dollar bill after spending the following amounts: $3.60, $11.17, 50 cents, $1.96, $6.40, $8.33, $29.08, and 98 cents.

11. A contractor agrees to grade a road for $14000; he pays a foreman $5 a day, for 80 days; 25 cart drivers $2.25 a day, for 75 days; and 83 laborers $1.30 a day for 77 days. Find his profit.

12. Sold 29 horses for $1914, losing $159.50; what did each cost?

13. Sold a farm of 46 acres for $3000, gaining $7.10 per acre; what did the farm cost?

14. What will I save in 14 months, if I earn $75 each month, and spend $39.25 per month?

15. I worked 13 weeks at $13.75 per week, and saved $58.50 during that time; what were my weekly expenses?

16. How many dimes in $40?

17. How many half'-eagles in $1080?

18. How many 3-cent pieces should be given for 240 eagles?

19. How many 5-cent pieces should be given for 720 quarter-eagles?

20. If a man had one of each of the gold coins, how many quarter-dollars could he get for them?

21. Invested $4329 in cattle at $18.50 a head, and sold them at $23.08 a head; what was my gain?

22. Bought a house for $3300; made some repairs, and sold it for $4250, gaining $487.75. What was the cost of the repairs?

23. How many days, of 11 hours each, must a man work to earn $499.07, at 13 cents an hour?

24. Bought 40600 pounds of sugar for $2639, and sold it at a gain of 5 mills per pound; what was my gain?

25. Bought 15600 pounds of coffee for $5850, and sold it for $6162; how much was my gain per pound?

26. Bought rice for $3573; sold it for 5 cents per pound, gaining 5 mills per pound; how many pounds did I buy?

27. What cost 2468 pounds of butter, on which $86.38 was gained by soiling it at 30 cents a pound?

28. Forty barrels of coal oil were bought for $241; how much was gained by selling at 15 cents a gallon, there being 50 gallons in each barrel?

29. Fifty barrels of molasses cost $1152, at 48 cents a gallon; how many gallons in each barrel?

30. A team pays $1.75 for toll, at the rate of 25 cents for 10 miles; how far does it go?

31. The expenses of a church festival were $237.52, and the gain was $701.98; how many 25-cent tickets had been sold?

32. A worked 47 days, at $2.55 per day; B worked 4 days longer than A, but received only the same amount. How much did B earn per day?

33. Find the cost of 40 boxes, each containing 24 cans, and each can holding 6 pounds of canned peaches, boxes costing 25 cents each, cans 5 cents each, and peaches 4 cents per pound.

Find the amount of the following bills:

34. 35 yards Muslin at $0.12 per yard, 47 do Calico at .08 do., 23 do Delaine at .16 do., 13 do Alpaca at .35 do., 21 do Silk at 1.05 do., 10 do Satin at 1.25 do., and 7 do Velvet at 2.40 do.

35. 4 pounds Tea at $1.15 per pound, 7 do Coffee at .32 do., 15 do Sugar at .13 do., 20 do Beef at .09 do., 17 do Ham, at .12 do., 12 do Cheese at .15 do., and 19 do Starch at .09 do.

36. 400 feet Pine at $0,025 per foot, 720 do Poplar at .03 do., 560 do Walnut at .07 do., 875 do Oak at .02 do., 94 do Beech at .045 do., and 120 do Cedar at .06 do.

LESSON 101

Name _____

PRACTICAL ARTICLE 61 Day of the Week _____

OBJECTIVE

- Complete reduction problems involving dry measure

Directions: Complete the following problems, given:

2 pints (pt.) make 1 quart, marked qt.
8 quarts " 1 peck, " pk.
4 pecks " 1 bushel, " bu.

1.

a. How many pints in 2 quarts?

b. In 4?

c. In 6?

d. In 8?

e. In 10?

2.

a. How many quarts in 3 pk.?

b. In 5?

c. In 7?

d. In 9?

3.

a. How many pecks in 9 bu.?

b. In 11?

c. In 13?

d. In 15?

e. In 17?

f. In 19?

4.

a. How many quarts in 10 bu.?

b. In 12?

c. In 14?

d. In 18?

e. In 25?

f. In 56?

5.

a. How many pecks in 16 qt.?

b. In 24?

c. In 32?

d. In 40?

e. In 48?

f. In 64?

6.

a. How many bushels in 32 qt.?

b. In 64?

c. In 96?

7.

a. How many pints in 1 bu.?

b. In 2?

c. In 5?

LESSON 102

Name _____

PRACTICAL ARTICLE 62 Day of the Week _____

OBJECTIVE

- Complete reduction problems involving dry measure

Directions: Complete the following problems, given:

2 pints (pt.) make 1 quart, marked qt.
8 quarts make 1 peck, marked pk.
4 pecks make 1 bushel, marked bu.

1. Reduce 3 bushels to pints.

2. Reduce 192 pints to bushels.

3. Reduce 7 bu. 3 pk. 6 qt. 1 pt. to pints.

4. Reduce 509 pt. to bushels.

LESSON 103

Name _____

PRACTICAL ARTICLE 63 Day of the Week _____

OBJECTIVE

- Given a reduction problem involving dry measure and its solution, prove the solution is correct

Directions: Prove answers to the following problems are correct, given:

2 pints (pt.) make 1 quart, marked qt.
8 quarts make 1 peck, marked pk.
4 pecks make 1 bushel, marked bu.

1. **Problem**: Reduce 4 bu. 2 pk. 1 qt. to pints. **Answer**: 290 pt. **Proof:**

2. **Problem**: Reduce 7 bu. 3 pk. 7 qt. 1 pint to pints. **Answer**: 511 pt. **Proof:**

3. **Problem**: Reduce 3 bu. 1 pt. to pints. **Answer**: 193 pt. **Proof:**

4. **Problem**: Reduce 384 pt. to bushels. **Answer**: 6 bu. **Proof:**

5. **Problem**: Reduce 47 pt. to pecks. **Answer**: 2 pk. 7 qt. 1 pt. **Proof:**

6. **Problem**: Reduce 95 pt. to bushels. **Answer**: 1 bu. 1 pk. 7 qt. 1 pt. **Proof:**

7. **Problem**: Reduce 508 pt. to bushels. **Answer**: 7 bu. 3 pk. 6 qt. **Proof:**

LESSON 104

Name _____

TEST ARTICLE 63

Day of the Week _____

OBJECTIVE

- Review or test students on Article 63 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 4 bu. 3 pk. 2 qt. 1 pt. to pints.

2. Reduce 9 bu. 2 qt. 1 pt. to pints.

3. Reduce 18 bu. 3 pk. 1 pt. to pints.

4. Reduce 36 bu. 3 qt. to pints.

5. Reduce 89 bu. 2 pk. to quarts.

6. Reduce 4789 pt. to bushels.

7. Reduce 5766 qt. to bushels.

8. Reduce 99 bu. 3 pk. 7 qt. 1 pt. to pints.

9. Reduce 583 bu. 1 pt. to pints.

10. Reduce 123456 pt. to bushels.

11. Reduce 4933 pk. to pints.

12. Reduce 25616 bu. to pints.

13. Reduce 25616 pt. to bushels.

14. Reduce 12345 qt. to pecks.

15. Reduce 7 million bushels to quarts.

LESSON 105

Name _____

PRACTICAL ARTICLE 64 Day of the Week _____

OBJECTIVE

- Solve reduction problems involving liquid measure

Directions: Solve the following problems, given:

4 gills (gi.) make 1 pint, marked pt.
2 pints make 1 quart, marked qt.
4 quarts make 1 gallon, marked gal.
1 gallon contains 231 cubic inches

1. Reduce 17 gal. to pints.

2. Reduce 13 gal. to gills.

3. Reduce 126 gal. to pints.

4. Reduce 1260 gal. to gills.

5. Reduce 1120 gi. to gallons.

6. How many gallons in 1848 cubic inches?

7. How many gallons in a vessel containing 138138 cubic inches?

LESSON 106

Name _____

TEST ARTICLE 64

Day of the Week _____

OBJECTIVE

- Review or test students on Article 64 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 38 gal. 3 qt. to pints.

2. Reduce 1025 gi. to gallons.

3. Reduce 87634 gal. to pints.

4. Reduce 93 gal. 2 qt. 1 pt. to gills.

5. Reduce 23867 pt. to gallons.

6. Reduce 8642 gal. to gills.

7. Reduce 99 gal. 3 qt. 2 gi. to gills.

8. Reduce 3732 gills to quarts.

9. Reduce 73 gal. 3 qt. 1 pt. 1 gi. to gills.

10. How many gallons in 33033 cubic inches?

11. How many cubic inches in 500 gallons?

12. A vessel measures 52206 cubic inches; how many gallons would it hold?

LESSON 107

Name _____

PRACTICAL ARTICLE 65 Day of the Week _____

OBJECTIVE

- Solve reduction problems involving Avoirdupois Weight

Directions: Solve the following problems, given:

16 ounces (oz.) make 1 pound, marked lb.
100 pounds make 1 hundred-weight, marked cwt.
20 cwt., or 2000 lb., make 1 ton, marked T.

1. Reduce 2 cwt. to pounds.

2. Reduce 3 cwt. 75 lb. to pounds.

3. Reduce 1 T. 2 cwt. to pounds.

4. Reduce 3 T. 75 lb. to pounds.

5. Reduce 4 cwt. 44 lb. to pounds.

6. Reduce 5 T. 90 lb. to pounds.

7. Reduce 2 cwt. 77 lb. 12 oz. to ounces.

8. Reduce 2 cwt. 17 lb. 3 oz. to ounces.

9. Reduce 1 T. 6 cwt. 4 lb. 2 oz. to ounces.

10. Reduce 4803 lb. to cwt. 48 cwt.

11. Reduce 22400 lb. to tons. 11 T.

12. Reduce 2048000 oz. to tons.

13. Reduce 64546 oz. to cwt.

14. Reduce 97203 oz. to tons.

15. Reduce 544272 oz. to tons.

16. What is the total weight of 52 parcels, each containing 18 lb.?

17. What is the weight of 180 iron castings, each weighing 75 lb.?

LESSON 108

Name _____

TEST ARTICLE 65

Day of the Week _____

OBJECTIVE

- Review or test students on Article 65 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 3 T. to pounds.

2. Reduce 5 T. 13 cwt. to pounds.

3. Reduce 9 T. 1 cwt. 50 lb. to pounds.

4. Reduce 7 T. 19 cwt. 99 lb. to pounds.

5. Reduce 13 T. 13 lb. to pounds.

6. Reduce 4 T. 17 cwt. to ounces.

7. Reduce 3 T. 20 lb. 5 oz. to ounces.

8. Reduce 12945 lb. to tons.

9. Reduce 98400 lb. to tons.

10. Reduce 876543 lb. to tons.

11. Reduce 38742 T. to ounces.

12. Reduce 160080 oz. to tons.

13. Reduce 71 T. 17 cwt. 71 lb. to pounds.

14. Reduce 711771 lb. to tons.

15. Reduce 40000000 oz. to tons.

16. Find the weight of 375 balls weighing 32 pounds each.

17. Find the weight of 3000000 candles weighing 3 ounces each.

18. Find the weight of 3456 20-pound cannon balls.

19. Reduce 15999999 oz. to tons.

20. What is the weight of 357 boxes of alum, weighing 56 pounds each?

LESSON 109

Name _____

PRACTICAL ARTICLE 66 Day of the Week _____

OBJECTIVE

- Solve reduction problems involving long measure

Directions: Solve the following problems, given:

12 inches (in.) make 1 foot, marked ft.
3 feet make 1 yard, marked yd.
5 ½ yards, or 16 ½ feet, make 1 rod, marked rd.
320 rods make 1 mile, marked mi.

1. Reduce 2 yd. 2 ft. 7 in. to inches.

2. Reduce 7 yd. 11 in. to inches.

3. Reduce 12 mi. to rods.

4. Reduce 7 mi. 240 rd. to rods.

5. Reduce 9 mi. 31 rd. to rods.

6. Reduce 133 in. to yards.

7. Reduce 181 in. to yards.

8. Reduce 2240 rd. to miles.

9. Reduce 2200 rd. to miles.

10. Reduce 1 mi. to yards.

11. Reduce 1 mi. to feet.

LESSON 110

Name _____

TEST ARTICLE 66

Day of the Week _____

OBJECTIVE

- Review or test students on Article 66 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 49 yd. 2 ft. 9 in. to inches.

2. Reduce 53 yd. 7 in. to inches.

3. Reduce 41 mi. 200 rd. to rods.

4. Reduce 77 yd. 2 ft. to inches.

5. Reduce 4953 mi. to rods.

6. Reduce 5678 in. to yards.

7. Reduce 38257 rd. to miles.

8. Reduce 498 yd. 11 in. to inches.

9. Reduce 373845 rd. to miles.

10. Reduce 39601 in. to yards.

11. Reduce 39601 mi. to rods.

12. Reduce 39601 rd. to miles.

LESSON 111

Name _____

PRACTICAL ARTICLE 67 Day of the Week _____

OBJECTIVE

- Solve reduction problems involving square measure

Directions: Solve the following problems, given:

144 square inches make 1 square foot, marked sq. ft.
9 square feet make 1 square yard, sq. yd
30J square yards make 1 square rod, marked sq. rd.
160 square rods make 1 acre, marked A.
640 acres make 1 square mile, marked sq. mi

1. Reduce 8 sq. yd. to square inches.

2. Reduce 4 A. to square rods.

3. Reduce 1 sq. mi. to square rods.

4. Reduce 2 sq. yd. 3 sq. ft. to sq. in.

5. Reduce 5 A. 100 sq. rd. to sq. rd.

6. Reduce 960 sq. rd. to acres.

7. Reduce 3888 sq. in. to square yards.

8. Reduce 20000 sq. rd. to acres.

9. Reduce 515280 sq. rd. to square miles.

10. Reduce 4176 sq. in. to sq. yd.

LESSON 112

Name _____

TEST ARTICLE 67

Day of the Week _____

OBJECTIVE

- Review or test students on Article 67 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 7 A. 100 sq. rd. to square rods.

2. Reduce 3 sq. mi. 300 A. to square rods.

3. Reduce 19 sq. mi. 19 A. 19 sq. rd. to square rods.

4. Reduce 18 sq. yd. 8 sq. ft. 118 sq. in. to square inches.

5. Reduce 39 sq. mi. 90 sq. rd. to square rods.

6. Reduce 99 sq. yd. 99 sq. in. to square inches.

7. Reduce 50000000 sq. mi. to square rods.

8. Reduce 1 billion square inches to square yards.

LESSON 113

Name _____

PRACTICAL ARTICLE 68 Day of the Week _____

OBJECTIVE

- Calculate the area of a rectangle

Directions: Solve the following problems, given:

A(rect) = L(rect) x W(rect)
160 square rods make 1 acre, marked A.
640 acres make 1 square mile, marked sq. mi
1 yard makes 3 feet, marked ft.

1. How many square inches in a board 4 inches long and 3 inches wide?

2. In a floor 16 feet long and 12 feet wide, how many square feet?

3. How many square yards of carpeting will cover a room 5 yards long and 4 yards wide?

4. How many square yards of carpeting will cover two rooms, one 18 feet long and 12 feet wide, the other 21 feet long and 15 feet wide?

5. How many square yards in a ceiling 18 feet long and 14 feet wide?

6. In a field 35 rods long and 32 rods wide, how many acres?

7. How much will it cost to carpet two rooms, each 18 feet long and 15 feet wide, if the carpet costs $1.25 per square yard?

8. What will it cost to plaster a ceiling 21 feet long and 18 feet wide, at 17 cents per square yard?

LESSON 114

Name _____

PRACTICAL ARTICLE 69 Day of the Week _____

OBJECTIVE

- Given the area of a rectangle and the length of one of its sides, calculate the length of the other side.

Directions: Solve the following problems, given:

A(rect) = L(rect) x W(rect)
160 square rods make 1 acre, marked A.
640 acres make 1 square mile, marked sq. mi
1 yard makes 3 feet, marked ft.

1. A floor containing 132 square feet, is 11 feet wide: what is its length?

2. A floor is 18 feet long, and contains 30 square yards: what is its width?

3. A field containing 9 acres, is 45 rods in length: what is its width?

4. A field 35 rods wide, contains 21 acres: what is its length?

LESSON 115

Name _____

TEST ARTICLES 68 & 69 Day of the Week _____

OBJECTIVE

- Review or test students on Articles 68 and 69 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

Find the area of the following:

1. A floor 18 ft. long and 15 ft. wide.

2. A carpet 27 ft. long and 22 ft. wide.

3. A platform 80 ft. long and 16 ft. wide.

4. A pavement 40 ft. long and 9 feet wide.

5. A ceiling 36 ft. long and 20 ft. wide.

6. A lot 72 rd. long and 60 rd. wide.

7. A farm 80 rd. long and 76 rd. wide.

8. A field 100 rods square.

Find the cost of the following:

9. The carpet in example 2 at $1.30 a sq. yd.

10. The pavement in example 4 at 30 cents a sq. yd.

11. The farm in example 7 at $17.75 per A.

12. The platform in example 3 at 3 cents per sq. ft.

13. A farm extends along the road 60 rods; how wide must it be to contain 45 A.?

14. A road is 3 rods wide; how long must it be to contain 120 A.?

15. A farm is 100 rods long and 96 rods wide; how much wheat will it produce at the rate of 13 bushels to the acre?

16. A roof 100 feet long requires 300 square yards of roofing; how wide is it?

17. A floor is 40 feet long and requires 120 square yards of carpet; how wide is it?

LESSON 116

Name _____

PRACTICAL ARTICLE 70 Day of the Week _____

OBJECTIVE

- Solve problems involving solid or cubic measure

Directions: Solve the following problems, given:

1728 cubic inches (cu. in.) make 1 cubic foot, marked cu. ft
27 cubic feet make 1 cubic yard, marked cu. yd.
128 cubic feet = 8 X 4 X 4 = 8 ft. long make 1 cord marked C.
4 ft. wide, and 4 ft. high, 1 cord marked C.

1. Reduce 2 cu. yd. to cubic inches.

2. Reduce 28 cords of wood to cu. ft.

3. Reduce 34 cords of wood to cu. in.

4. Reduce 1 cord of wood to cu. in.

5. Reduce 63936 cu. in. to cu. yd. 1 cu. yd.

6. How many cubic feet in a rectangular solid, 8 ft. long, 5 ft. wide, 4 ft. thick?

7. How many cubic yards of excavation in a cellar 8 yd. long, 5 yd. wide, 2 yd. deep?

8. How many cubic yards in a cellar, 18 feet long, 15 feet wide, 7 feet deep?

9. In a pile of wood 40 feet long, 12 feet wide, and 8 feet high, how many cords?

10. What will be the cost of a pile of wood 80 feet long, 8 feet high, and 4 feet thick, at $5.50 per cord?

11. What will be the cost of excavating a cellar 24 ft. long, 15 ft. wide, and 6 ft. deep, at $1.25 per cubic yard or load?

LESSON 117

Name _____

TEST ARTICLE 70

Day of the Week _____

OBJECTIVE

- Review or test students on Article 70 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 3483648 cu. in. to cubic yards.

2. Reduce 3 cu. yd. 300 cu. in. to cubic inches.

3. Reduce 746496 cu. in. to cubic yards.

4. Reduce 9856 cu. ft. to cords.

5. Reduce 11 C. Ill cu. ft. 1111 cu. in. to cubic inches.

6. How many cubic yards in a cellar 40 feet long, 18 feet wide, and 9 feet deep?

7. How many cords in a wood-pile 120 feet long, 8 feet high, and 4 feet wide?

8. How many cubic yards of masonry in a stone pier 320 feet long, 36 feet wide, and 12 feet thick?

9. What will be the cost of a breakwater 900 feet long, 6 feet thick, and 12 feet high, at $2.75 per cubic yard?

10. Find the cost of a pile of wood 40 feet long, 40 feet wide, and 8 feet high, at $3.75 a cord.

11. How many inch cubes of lead can be cast from a mass 3 feet long, 1 foot high, and 2 feet wide?

12. Find the cost of digging a ditch 12 feet wide, 6 feet deep, and 285 feet long, at $.75 a cubic yard.

LESSON 118

Name _____

PRACTICAL ARTICLE 71 Day of the Week _____

OBJECTIVE

- Solve problems involving time measure

Directions: Solve the following problems, given:

60 seconds (sec.) make 1 minute, marked min.
60 minutes make 1 hour, marked hr.
24 hours make 1 day, marked da.
100 years make 1 century, marked cen.
7 days make 1 week, marked wk.
4 weeks make 1 month (nearly), marked mon.

1. Reduce 2 hr. to seconds.

2. Reduce 7 da. to minutes.

3. Reduce 1 da. 3 hr. 44 min. 3 sec. to seconds.

4. Reduce 9 wk. 6 da. 10 hr. 40 min. to minutes.

5. Reduce 1 mon. 3 da. 4 min. to minutes.

6. Reduce 10800 seconds to hours.

7. Reduce 432000 seconds to days.

8. Reduce 7322 seconds to hours.

9. Reduce 4323 minutes to days.

10. Reduce 20280 minutes to weeks.

11. Reduce 41761 min. to months.

LESSON 119

Name _____

TEST ARTICLE 71

Day of the Week _____

OBJECTIVE

- Review or test students on Article 71 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 3 da. 2 hr. 30 min. to seconds.

2. Reduce 11 weeks to minutes.

3. Reduce 3 wk. 3 da. 3 hr. 3 min. 3 sec. to seconds.

4. Reduce 9 wk. 9 hr. to seconds.

5. Reduce 43 da. 43 sec. to seconds.

6. Reduce 777600 sec. to weeks.

7. Reduce 45678 min. to days.

8. Reduce 87500 days to seconds.

9. Reduce 72000 min. to weeks.

10. How many minutes in the year 1890?

11. How many minutes in the last three months of the year?

12. How many seconds in February, 1889?

13. How many seconds in 5 leap years?

14. Reduce 3 common years to hours.

15. A clock ticks 120 times in a minute; how many ticks will it make in the year 1892?

16. Reduce 19 wk. 5 da. 21 hr. 20 min. to minutes.

LESSON 120

Name _____

PRACTICAL ARTICLE 72 Day of the Week _____

OBJECTIVE

- Study measures involving Troy and Apothecaries Weight

Directions: Use the tables in Practical Article 72 to answer the problems below.

1. For what does the ʒ character stand? _____
2. For what does the ʒ character stand? _____
3. For what does the ℈ character stand? _____
4. How many inches are 6 barleycorns? _____
5. How many feet are in 3 fathoms? _____
6. Write the figure for seconds for circular measure. _____
7. Write the figure for minutes for circular measure. _____
8. Write the figure for degrees for circular measure. _____
9. How many degrees are in 1 circle? _____
10. How many things make a dozen? _____
11. How many things make a gross? _____
12. How many things make a score? _____
13. How many pounds of nails make 1 keg? _____
14. What is the abbreviation for duodecimo? _____
15. How many leaves make up 8vo? _____

LESSON 121

Name _____

PRACTICAL ARTICLE 73 Day of the Week _____

OBJECTIVE

- Solve problems involving Troy and Apothecaries Weight

Directions: Solve the following problems, given the various tables in the lesson.

1. Reduce 5 lb. 4 oz. Troy to ounces.

2. Reduce 9 lb. 3 oz. 5 pwt. to pwt.

3. Reduce 8 lb. 9 oz. 13 pwt. 17 gr. to gr.

4. Reduce 805 pwt. to pounds.

5. Reduce 12530 gr. to pounds.

6. Reduce 4 lb. 5 ʒ 2 gr. to grains.

7. Reduce 7 lb. 2 ʒ 1 ℈ to grains.

8. Reduce 431 ʒ to pounds.

9. Reduce 975 ℈ to pounds.

10. Reduce 6321 gr. to pounds.

11. Reduce 4 cong. 7 f. ʒ to fluid drams.

12. Reduce 5 O. 6 f. ʒ 3 f. ʒ to minims.

13. Reduce 2469 f. ʒ to gallons.

14. Reduce 3 yd. to barleycorns.

15. How many lines in 1 foot 6 inches?

16. What is the height of a horse of 16½ hands?

17. A field measures 24 chains in length and 15 chains in breadth: how many acres in it?

18. A cistern contains 267 cubic feet 624 cubic inches: how many gallons does it hold? (Art. 64, Rem.).

19. Reduce 8° 41' 45" to seconds.

20. Reduce 61° 59' 28" to seconds.

21. Reduce 915' to degrees.

22. Reduce 3661" to degrees.

23. What cost 6 gross of screws at 5 cents a dozen?

24. A man is 4 score and 10: how old is he?

25. At 18 cents a quire, what will 3 bundles of paper cost?

26. How many sheets of paper will be required for a 12mo. book of 336 pages?

27. An octavo work in 5 volumes has 512 pages in Vol. 1, 528 in Vol. 2, 528 in Vol. 3, 512 in Vol. 4, and 496 in Vol. 5: how much paper was used for one copy of the whole work?

LESSON 122

Name _____

TEST ARTICLE 73

Day of the Week _____

OBJECTIVE

- Review or test students on Article 73 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 17 lb. 10 oz. 16 pwt. to grains.

2. Reduce 18 lb. 18 gr. to grains.

3. Reduce 24 lb. 11 oz. 19 pwt. 23 gr. to grains.

4. Reduce 87340 gr. to pounds.

5. Reduce 50660 pwt. to pounds.

6. Reduce 31275 lb. to pennyweights.

7. Reduce 15 thousand gr. to pounds.

8. Reduce 4 lb. 4 oz. 4 gr. to grains.

9. Reduce 10 lb. 10 pwt. to grains.

10. Reduce 3 lb 9 ʒ 3 ʒ 1 ℈ 14 gr. to grains.

11. Reduce 9 lb 3 ʒ 2 ℈ to scruples.

12. Reduce 14 ft 7 ʒ 7 gr. to grains.

13. Reduce 45677 gr. to pounds.

14. Reduce 3478 ʒ to pounds.

15. Reduce 12345 ℈ to pounds.

16. Reduce 7 Cong, to f. ʒ.

17. Reduce 3 O. 2 f. ʒ to minims.

18. Reduce 71 Cong. 3 f. ʒ to f. ʒ.

19. Reduce 4 ft. 6 in. to lines.

20. Reduce 5 feet to hands.

21. Reduce 17 leagues to miles.

22. Reduce 16 spans to yards.

23. In 17 hands how many feet?

24. In 20 yards how many spans?

25. Reduce 52 spans to hands.

26. Reduce 80 paces to fathoms.

27. Reduce 75 hands to fathoms.

28. Reduce 25 chains to rods.

29. Reduce 37°, 37', 37" to seconds.

30. Reduce 19°, 19" to seconds.

31. Reduce 37864" to degrees.

32. Reduce 450° to seconds.

33. How many things in 30 dozen?

34. How many things in 15 gross?

35. How many things in 5 great gross?

36. Reduce 15 score to dozens.

37. Reduce 360 score to gross.

38. What cost 12 kegs of nails at 6 cents a pound?

39. What cost 12 barrels of flour at 3 cents a pound?

40. What cost 12 barrels of pork at 8 cents a pound?

41. What cost 12 casks of lime, at 6 mills per pound?

42. What cost 1872 rings at 80 cents a gross?

43. What cost 7 great gross of needles, at 3 cents a dozen?

44. What cost 7 great gross of pins at 3 cents a gross?

45. What cost 9 gross of braces, at 7 cents apiece?

46. What cost 18 quires of drawing paper at 4 cents a sheet?

47. How many sheets of paper in 6 bundles?

48. A ream of paper will make how many 8vo. leaves?

49. Three reams of paper will make how many 12mo. pages?

50. How many reams of paper will be required for 3000 octavo books of 320 pages each?

LESSON 123

Name _____

PRACTICAL ARTICLE 74 Day of the Week _____

OBJECTIVE

- Solve problems involving weight and measurement

Directions: Solve the following problems, given the various tables in the previous lessons.

1. What cost 2 bu. of plums, at 5 ct. a pint?

2. What cost 3 bu. 2 pk. of peaches, at 50 ct. a peck?

3. What cost 3 pk. 3 qt. of barley at 3 ct. a pint?

4. At 15 ct. a peck, how many bushels of apples can be bought for $3?

5. If salt cost 2 ct. a pint, how much can be bought with $1.66?

6. I put 91 bu. of wheat into bags containing 3 bu. 2 pk. each: how many bags were required?

7. How many spikes, weighing 4 oz. each, are in a parcel weighing 15 lb. 12 oz.?

8. I bought 44 cwt. 52 lb. of cheese; each cheese weighed 9 lb. 15 oz.: how many cheeses did I buy?

9. How many kegs, of 84 lb. each, can be filled from a hogshead of sugar weighing 14 cwt. 28 lb.?

10. How many boxes, containing 12 lb. each, can be filled from 7 cwt. 56 lb. of tobacco?

11. If a family use 3 lb. 13 oz. of sugar a week, how long will 6 cwt. 10 lb. last them?

12. What will 2 acres 125 square rods of land cost, at 20 cents a square rod?

13. A farmer has a field of 16 A. 53 sq. rd. to divide into lots of 1 A. 41 sq. rd. each: how many lots will it make?

14. How many cu. in. in a block of marble 2 ft. long, 2 ft. high, 2 ft. wide?

15. One cu. ft. of water weighs 1000 oz. avoirdupois: what do 5 cu. ft. weigh?

16. What is the weight of a quantity of water occupying the space of 1 cord of wood, each cubic foot of water weighing 1000 ounces avoirdupois?

17. A cubic foot of oak weighs 950 oz. avoirdupois: what do 2 cords of oak weigh?

18. Find the cost 63 gallons of wine, at 20 cents a pint.

19. Find the cost of 5 barrels of molasses, each containing 31 gal. 2 qt., at 10 cents a quart.

20. At 5 cents a pint, what quantity of molasses can be bought for $2?

21. How many dozen bottles, each bottle holding 3 qt. 1 pt., can be filled from 63 gal. of cider?

22. How many kegs, of 4 gal. 3 qt, 1 pt. each, can be filled from 58 gal. 2 qt.?

23. If a human heart beat 70 times a minute, how many times will it beat in a day?

24. How many seconds in the month of February, 1876?

25. If a ship sails 8 miles an hour, how many miles will it sail in 3 wk. 2 da. 3 hr.?

26. A horse is fed 1 peck of oats daily. If oats cost 44 cents a bushel, how much will it cost to feed him a year of 365 days?

27. A flour dealer bought 40 barrels of flour for 3 ct. a pound, and sold it for 5 ct. a pound: how much did he gain?

LESSON 124

Name _____

TEST ARTICLE 74 Day of the Week _____

OBJECTIVE

- Review or test students on Article 74 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Reduce 49 yd. 2 ft. to inches.

2. Reduce 7 lb. 3 pwt. to grains.

3. Reduce 174528 sq. in. to square yards.

4. Reduce 12500" to degrees.

5. Reduce 504000 cu. in. to cubic yards.

6. Reduce 3 lb 7 ʒ 2 ℈ to grains.

7. Reduce 863990 sec. to weeks.

8. Reduce 3329 pt. to bushels.

9. Reduce 14 great gross to dozens.

10. Reduce 7 T. 13 cwt. to pounds.

11. Reduce 3734 in. to yards.

12. Reduce 15 cords to cubic inches.

13. Reduce 5678 pt. to gallons.

14. Reduce 1016064 lb. flour to barrels.

15. Reduce 5400 scores to gross.

16. Reduce 3456 bu. to quarts.

17. Reduce 39750 pwt. to pounds.

18. Reduce 14 T. 14 lb. to ounces.

19. Reduce 23 gallons to f. ʒ.

20. Reduce 333360 min. to weeks.

21. Reduce 7599 pt. to gallons.

22. Reduce 435670 sq. rd. to square miles.

23. Reduce 240 mi. to rods.

24. Reduce 78 gal. 3 qt. 1 pt. to pints.

25. Reduce 19 wk. 20 sec. to seconds.

26. Reduce 310 mi. 310 id. to rods.

27. Reduce 49600 oz. to T.

28. Reduce one million sec. to weeks.

29. Reduce 384 cu. yd. to cords.

30. Reduce 5350 lb. to grains.

31. Reduce 12345 qt. to bushels.

32. Reduce 13 common years to minutes.

33. Reduce 12 cu. yd. 23 cu. ft. to cubic inches.

34. Reduce 39 T. 39 lb. to pounds.

35. Reduce 8 lb 8 ʒ 8 gr. to grains.

36. Reduce 46 sq. yd. 2 sq. ft. 36 sq. in. to sq.

37. Reduce 9876 pt. to gallons.

38. Reduce 10000 in. to yards.

39. Reduce 1284 pt. to bushels.

40. Reduce 11 ʒ 7 ʒ 2 ℈ to grains.

41. Reduce 5 sq. mi. 5 sq. rd. to square rods.

42. Reduce 162 C. to cubic yards.

43. Reduce 26 reams to 16mo. leaves.

44. Reduce 47580" to degrees.

45. Reduce one million pt. to gallons.

46. Reduce 3500 gr. to ℨ.

47. Reduce 6399 pt. to bushels.

48. Reduce 24 reams to sheets.

49. Reduce 793863 sq. in. to square yards.

50. Reduce one million oz. to tons.

51. Reduce 79 yd. 11 in. to inches.

52. Reduce 19 C. 1600 cu. in. to cubic inches.

53. Reduce 704000 sq. rd. to square miles.

54. Reduce 137 bu. 3 pk. to pints.

55. Reduce 5 wk. 5 da. 15 hr. 55 sec. to seconds.

56. Reduce 13 mi. 130 rd. to rods.

57. Reduce 1600 barrels of pork to pounds.

58. Reduce 30 T. 1 cwt. to ounces.

59. Reduce 217728 cu. in. to cubic yards.

60. Reduce 6920 pt. to gallons.

61. Reduce 10 great gross to scores.

62. Reduce 456789 oz. to tons.

63. Reduce ten thousand pt. to bushels.

64. Reduce 14° 23" to seconds.

65. Reduce 4720 qt. to gallons.

66. Reduce one million sq. in. to square yards.

67. Reduce 6732 in. to yards.

68. Reduce 5280 minims to f. ʒ.

69. Reduce 565 bu. 1 pt. to pints.

70. Reduce 3456000 sec. to weeks.

71. Reduce 3456000 12mo. pages to reams.

72. Reduce 288000 oz. to tons.

73. Reduce 387 A. 100 sq. rd. to square rods.

74. Reduce 17 leagues to rods.

75. Reduce 87 cu. yd. 25 cu. ft. to cords.

76. What cost 35 bushels of apples at 18 cents a peck?

77. What cost 13 bushels of salt at 3 cents a pint?

78. How much iron will be required to make 1000 4-oz. spikes?

79. How much wine will be needed to fill 80 dozen pint bottles?

80. A man's expenses are $1.17 a day; how much is that for July?

81. How many rings, weighing 6 pwt. each, can be made from 3 lb. of gold?

82. 414 gallons of brandy were put in bottles containing 3 gills each; how many dozen bottles were required?

83. Find the cost of a pile of wood 40 feet long, 8 feet wide, and 8 feet high, at $3.75 per cord.

84. What cost 20 bushels of apples at 20 cents a peck?

85. A lawn 120 feet long, and 54 feet wide, was sodded at a cost of 19 cents per square yard; what was the total cost?

86. 561 pounds of iron were made into horse-shoes weighing 6 ounces each; how many were made?

87. How many 3-grain pills can be made from 5ʒ of quinine?

88. If sound moves 1124 feet per second, how long will it be in passing over 39340 yards?

89. How many bottles, holding 1 pt. 3 gi. each, can be filled from 168 gallons?

90. A comet moves 40" per day; how far will it move in 120 days?

91. What costs a carpet 21 feet long and 15 feet wide, at $1.75 per square yard?

92. How many pounds in 480 dozen boxes of baking powder holding 15 ounces each?

93. How much silver will be required to make 10 dozen spoons, each weighing 15 pwt.?

94. How many cords of wood can be cut on 25 acres, at the rate of 72 cubic feet to a square rod?

95. If bottles hold 1 pt. 2 gi. each, how many dozen bottles can be filled from 126 gallons?

96. How many sashes, each 3 yd. 1 ft. long, can be cut from 200 yards of silk?

97. 500 bushels of peaches were packed in baskets, each holding 3 pk. 1 qt.; how many baskets were required?

98. A paper containing 2 ʒ 1 ℈ of medicine was divided into pills weighing 5 grains each, which were sold at 2 cents apiece; how much was received for it?

99. If 25 sq. rd. produce 1 bushel of wheat, how many bushels can be raised on a square mile?

100. If a weaver can weave 10 sq. ft. of carpet in an hour, how many sq. yd. can he weave in 15 days, working 12 hours per day?

101. How many plates, each weighing 2 lb. 8 oz., would be required to weigh 7 tons?

102. What cost 3 lb. 4 oz. of gold plate, at $.95 per pwt.?

103. Three cwt. of indigo was put up in ounce papers; how many dozen papers would that give?

104. A cistern containing 3003 gallons is emptied by a pipe carrying 1 gal. 1 gi. per minute; how long will it take to empty it?

105. A boy walks a rod in 3 seconds; how long will he be in walking 15 miles?

106. At 5 cents a pint, how many bushels of strawberries can be bought for $20?

107. A publisher issued an edition of 5000 12mo. books of 288 pages each; how many reams of paper were required?

108. If a pint of water weigh one pound, how many gallons will be required to make a weight of 8 tons?

109. What cost 13 yards of antique lace, at $20 per inch?

110. What sum will be received for 57 bushels of apples, at 24 cents per peck?

111. What will be the cost of fencing a field 180 rods long and 56 rods wide, at 75 cents per rod?

112. Three ounces and two drams of medicine was divided into powders weighing 13 grains each; how much would be received for the powders, at 15 cents apiece?

113. Fifteen bushels of cherries cost $33.60; how much is that per pint?

114. How much will a man earn in 9 weeks, at $2.25 per day?

115. A ship sails 10' 30" per hour; how many days will it take to sail 28°?

116. What will wine cost, to fill 40 dozen bottles, holding 3 gills each, at $2.50 a gallon?

117. A block of stone is 8 ft. long, 8 ft. wide, and 8 ft. thick; how much will it weigh if a cu. ft. weighs 625 lbs?

118. Find the cost of 300 bushels of oysters, at 12 cents per peck.

119. If a railway train can go 22 miles 160 rods in 1 hour, how long will it require to go 1710 miles?

120. What cost 9 tons of hay, at 9 mills per pound?

121. A tank will hold 1000 gallons of water; how many cubic feet in it?

122. A steel plate is 2 feet long and 16 inches wide, and weighs 2 ounces to each square inch; what is it worth, at $0,075 per pound?

123. A man's income being $1.33 every hour, what will it be in the year 1895?

124. What cost 375 fathom of rope, weighing 2 pounds per foot, at 5 cents 5 mills per pound?

125. How many score in 30 great gross?

126. Sold berries at 6 cents a pint, and realized $15.12; how many bushels were sold?

127. What cost 400 gallons of molasses, at 7 ct. a pint?

128. How many rings, weighing 6 ounces each, can be made from 141 pounds of iron?

129. How many plates, weighing 6 ounces each, can be made from 141 pounds of silver?

130. Wheat weighs 60 pounds per bushel; find the cost of 30720 pounds, at 90 cents a bushel.

131. What will be the cost of paving a street 2700 feet long, and 40 feet wide, at $0.72 per square yard?

132. If a machine will peg a shoe in 4 minutes, how many dozen will it peg in 6 days of 10 hours each?

133. A cistern containing 480 gallons of water has two leaks: from one, 3 gills run out per minute; from the other, 13 gallons per hour. How much will be left in the cistern at the end of 8 hours?

134. 550 bushels of corn were bought at 44 cents a bushel, and retailed at 14 cents a peck; how much was gained?

135. How long would it take a tortoise to crawl a league, moving 4 rods an hour and 15 hours a day?

136. A man eats 2 lb. 3 oz. daily; how many weeks would 2 T. 9 cwt. last him?

137. A had 150 barrels of flour; B had the same weight of beef; how many barrels would it fill?

138. How many bags, of 2 bu. 2 qt. each, will be required to contain 2145 bushels of wheat?

139. How long would it take to build a road 86 mi. 20 rd. long, if 1 mi. 20 rd. can be made in a day?

140. What cost 256 cubic yards of wood, at $3.17 a cord?

141. If 3 bu. 2 pk. of berries cost $8.40, how much is that per quart?

142. A man poured 48 gallons of wine into bottles containing 1 qt. 1 pt. each, and sold them at 60 cents per bottle; how much did he receive?

143. How many gallons of essence will be required to fill 40 gross of bottles, each to contain 1 fluid ounce?

144. How many labels, 2 in. long and 1 in. wide, can be cut from 6 sheets of paper, each 4 ft. wide and 8 ft. long?

145. If 1 bu. 1 pk. of peaches cost $3, what will 1 bushel cost?

146. Twenty-four sheets were folded in 12mo.; how many sheets would be required to make as many quarto leaves?

LESSON 125

Name _____

PRACTICAL ARTICLE 75 Day of the Week _____

OBJECTIVE

- Solve problems involving the addition of the compound numbers

Directions: Complete the following problems.

1. A farmer sold three lots of wheat: the first lot contained 25 bu. 3 pk.; the second, 14 bu. 2 pk.; the third, 32 bu. 1 pk.: how much did he sell?

(2)

bu.	pk.	qt.	pt.
3	2	0	1
4	0	6	1
1	3	7	1

(3)

bu.	pk.	qt.	pt.
7	3	7	1
6	2	0	0
9	2	4	1

(4)

bu.	pk.	qt.
4	3	7
5	2	2
7	1	6

(5)

bu.	pk.	qt.	pt.
8	1	7	1
7	3	2	1
9	2	7	1

(6)

qt.	pt.	gi.
7	1	3
6	0	2
9	1	3

(7)

gal.	qt.	pt.	gi.
40	3	1	3
16	1	0	2
71	2	1	2

(8)

T.	cwt.	lb.	oz.
45	3	53	10
14	14	75	15
19	17	18	13

(9)

cwt.	lb.	oz.
16	85	14
15	90	13
18	74	12

(10)

mi.	rd.
28	129
64	280
17	275

(11)

yd.	ft.	in.
4	2	11
3	1	9
5	1	8

(12)

A.	sq. rd.
41	51
64	104
193	155

(13)

sq. yd.	sq. ft.	sq. in.
15	8	115
20	7	109
14	5	137

(14)

C.	cu. ft.	cu. in
13	28	390
15	90	874
20	67	983

(15)

cu. yd.	cu. ft.	cu. in.
50	18	900
45	17	828
46	20	990

(16)

da.	hr.	min.	sec.
16	18	28	47
13	15	49	59
19	16	53	42

(17)

mo.	wk.	da.	hr.	min.	sec.
3	0	0	23	51	40
1	2	4	19	30	37
3	1	5	13	27	18

18. Five loads of wheat measured thus: 21 bu. 3 pk.; 14 bu. 1 pk.; 23 bu. 2 pk.; 18 bu. 1 pk.; 22 bu. 1 pk.: how many bushels in all?

19. A farmer raised of oats 200 bu. 3 pk.; barley, 143 bu. 1 pk.; corn, 400 bu. 3 pk.; wheat, 255 bu. 1 pk.: how much in all?

20. A grocer sold 5 hogsheads of sugar: the first weighed 8 cwt. 36 lb.; the second, 4 cwt. 64 lb.; the third, 5 cwt. 19 lb.; the fourth, 7 cwt. 75 lb.; the fifth, 7 cwt. 84 lb.: what did all weigh?

21. Add 13 lb. 11 oz.; 17 lb. 13 oz.; 14 lb. 14 oz.; 16 lb.; 19 lb. 7 oz.; and 17 lb. 9 oz.

22. Two men depart from the same place: one travels 104 mi. 50 rd. due east; the other, 95 mi. 270 rd. due west: how far are they apart?

23. A man has 3 farms: in the first are 186 A. 134 sq. rd.; in the second, 286 A. 17 sq. rd.; in the third, 113 A. 89 sq. rd.: how much in all?

24. Add 17 sq. yd. 3 sq. ft. 119 sq. in.; 18 sq. yd. 141 sq. in.; 23 sq. yd. 7 sq. ft.; 29 sq. yd. 5 sq. ft. 116 sq. in.

25. A has 4 piles of wood: in the first, 7 C. 78 cu. ft.; the second, 16 C. 24 cu. ft.; the third, 35 C. 127 cu. ft.; the fourth, 29 C. 10 cu. ft.: how much in all?

26. I sold 4642 gal. 3 qt. 1 pt. of wine to A; 945 gal. to B; 1707 gal. 1 pt. to C; 10206 gal. 1 qt. to D: how many hogsheads of 63 gal. each did I sell?

LESSON 126

Name _____

TEST ARTICLE 75

Day of the Week _____

OBJECTIVE

- Review or test students on Article 75 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Add together 4 bu. 2 pk. 5 qt.; 17 bu. 3 pk. 1 qt.; 9 bu. 2 pk. 6 qt.; 16 bu. 3 pk. 5 qt.; 5 bu. 1 pk. 3 qt.; 2 bu. 7 qt.; 1 pk. 2 qt.; and 3 bu. 3 qt.

2. Add together 199 bu. 2 pk.; 83 bu. 3 pk.; 65 bu. 1 pk.; 88 bu. 2 pk.; 100 bu. 2 pk.; 116 bu. 1 pk.; 134 bu. 3 pk.; and 111 bu. 2 pk.

3. 27 gal. 3 qt. 1 pt. + 27 gal. 2 qt. 1 pt. + 27 gal. 1 qt. 1 pt. + 27 gal. 1 pt. + 27 gal. 3 qt. + 27 gal. 2 qt. + 27 gal. 1 qt. =?

4. 3 T. 17 cwt. 60 lb. + 5 T. 15 cwt. 70 lb. + 4 T. 90 lb. + 9 T. 19 cwt. 99 lb. + 7 T. 16 cwt. + 5 cwt. 92 lb.=?

5. 15 gal. 1 pt. + 16 gal. 1 qt. + 17 gal. 1 qt. 1 pt. + 18 gal. 2 qt. + 19 gal. 1 pt. + 20 gal. 3 qt. + 21 gal. 1 pt. + 22 gal. 3 qt. 1 pt. =?

6. Find the sum of 7 cwt, 29 lb.; 9 cwt. 40 lb.; 16 cwt. 67 lb.; 13 cwt. 28 lb.; 12 cwt. 71 lb.; 10 cwt. 60 lb.; 3 cwt. 33 lb.; and 16 cwt. 72 lb.

7. 29 gal. 2 qt. 1 pt. + 29 gal. 2 qt. 1 pt. + 29 gal. 2 qt. 1 pt., + 29 gal. 2 qt. 1 pt. + 29 gal. 2 qt. 1 pt. + 29 gal. 2 qt. 1 pt. =?

8. Find the sum of 7 yd. 2 ft. 11 in.; 4 yd. 1 ft. 7 in.; 12 yd. 2 ft. 5 in.; 9 yd. 1 ft. 1 in.; 12 yd. 1 in.; 15 yd. 1 ft. 5 in.; 6 yd. 7 in.; and 10 yd. 1 ft. 11 in.

9. Add together 7 yd. 2 ft.; 7 yd. 2 in.; 6 yd. 1 ft. 7 in.; 4 yd. 11 in.: 9 yd. 2 ft. 6 in.; 3 yd. 3 in.; 12 yd. 2 ft.; and 6 yd. 10 in.

10. 75 A. + 75 sq. rd. + 76 A. 70 sq. rd. + 77 A. 77 sq. rd. + 78 A. 78 sq. rd. + 72 A. 72 sq. rd. + 119 A. 140 sq. rd. =?

11. 7 sq. yd. 7 sq. ft. 77 sq. in. + 8 sq. yd. 8 sq. ft. 88 sq. in. + 22 sq. yd. 22 sq. in. + 49 sq. yd. 4 sq. ft. 48 sq. in + 39 sq. yd. 96 sq. in. =?

12. Find the sum of 3 sq. mi. 300 A.; 7 sq. mi. 500 A.; 4 sq. mi. 444 A.; 2 sq. mi. 222 A.; 10 sq. mi. 229 A.; and 5 sq. mi. 555 A.

13. 27 cu. yd. 26 cu. ft. + 26 cu. yd. 25 cu. ft. + 25 cu. yd. 24 cu. ft. + 24 cu. yd. 23 cu. ft. + 23 cu. yd. 22 cu. ft. + 22 cu. yd. 21 cu. ft. =?

14. 25 C. 17 cu. ft. + 25 C. 1700 cu. in. + 25 C. 117 cu. ft. 1170 cu. in. + 252 C. 1717 cu. in. + 28 C. 127 cu. ft. + 19 C. 127 cu. ft. 1727 cu. in. =?

15. 3 da. 13 hr. 20 min. + 7 da. 17 hr. 27 min. + 3 da. 13 hr. 33 min. + 6 da. 23 hr. + 4 da. 6 hr. 56 min. + 11 da. 11 hr. 11 min. + 19 da. 19 hr. 59 min. =?

16. 5 da. 59 min. + 5 da. 58 min. + 5 da. 57 min. + 5 da. 56 min. + 5 da. 55 min. + 5 da. 54 min. + 5 da. 53 min. =?

17. 4 lb. 9 oz. 12 pwt. + 6 lb. 7 oz. 18 pwt. + 3 lb. 10 oz. 10 pwt. + 5 lb. 11 oz. + 2 lb. 11 pwt. + 6 lb. 6 oz. 16 pwt. + 13 lb. 13 pwt, =?

18. 2 ʒ 2 ℈ 10 gr. + 7 ʒ 19 gr. + 5 ʒ 1 ℈ 16 gr. + 5 ʒ 10 gr. + 2 ʒ 2 ℈ 1 gr. + 5 ʒ 1 ℈ 4 gr. =?

19. 5 ʒ 3 ʒ 2 ℈ + 4 ʒ 2 ʒ 1 ℈ + 7 ʒ 2 ℈ + 7 ʒ 2 ℈ + 2 ʒ 4 ʒ l ℈ + 3 ʒ 5 ʒ 2 ℈ + 7 ʒ l ℈ + 7 ʒ 1 ℈ =?

20. 4 score and 6 + 3 score and ten + 4 score and 8 + 4 score and 9 + 2 score and 18 + 3 score and 12 =?

21. 14° 35' 23" +17° 49' 49" +26° 30' 10" +30° 59' 1" + 7° 24' 48" + 13° 29' 50" + 9° 59" =?

22. 8° 15' 28" + 6° 28' 29" + 7° 30' 30" + 11° 44' 32" + 13° 31' 31" +13° 30' 31" =?

23. 3 cong. 7 O. 11 f. ʒ + 5 cong. 4 O. 9 f. ʒ + 7 coug. 7 O. 7 f. ʒ + 9 coug. 5 f. ʒ + 7 cong. 7 O. + 5 O. 15 f. ʒ =?

24. 2 f. ʒ 4 f. ʒ 20 ℔ + 3 f. ʒ 5 ʒ 40 ℔ + 7 f. ʒ 3 f. ʒ 40 ℔ + 6 f. ʒ 2 f. ʒ 20 ℔ =?

25. Seven barrels of whisky were gauged as follows: 49 gal. 3 qt.; 51 gal. 2 qt.; 48 gal. 3 qt.; 55 gal. 2 qt.; 52 gal. 2 qt.; 53 gal. 1 qt.; and 50 gal. 2 qt. How much in all?

26. How much wood in 5 piles, containing respectively 25 C. 87 cu. ft.; 56 C. 112 cu. ft.; 39 C. 41 cu. ft.; 43 C. 16 cu. ft.; and 88 C. 88 cu. ft?

27. Eggs were packed in 6 boxes: 29 doz. and 7; 40 doz. and 10; 35 doz. and 5; 60 doz. and 10; 38 doz. and 9; and 52 doz. and 7. How many dozen in all?

28. Find the weight of 8 hogsheads of sugar, weighing as follows: 11 cwt. 83 lb.; 12 cwt. 46 lb.; 11 cwt. 55 lb.; 12 cwt. 19 lb.; 13 cwt. 1 lb.; 12 cwt. 52 lb.; 11 cwt. 93 lb.; and 12 cwt, 51 lb.

29. A farmer planted 17 A. 100 sq. rd. in wheat, 21 A. 120 sq. rd. in oats, 30 A. 50 sq. rd. in corn, 13 A. 60 sq. rd. in potatoes, 7 A. 40 sq. rd. in sorghum, and 11 A. 110 sq. rd. in broom-corn. How much land had he in cultivation?

30. A vessel sailed 13 da. 7 hr. to the first port, and stopped there 2 da. 20 hr; then 25 da, 20 hr. to the second port, and stopped there 3 da. 23 hr.; then 40 da. 5 hr. to the third port, and stopped there 2 da. 19 hr.; then 60 da. 16 hr. to the starting point. How long was the voyage?

31. A railroad train traveled as follows: 14 mi. 125 rd. to first station; 9 mi. 77 rd. to second; 16 mi. 62 rd. to third; 31 mi. 35 rd. to fourth; 11 mi. 83 rd. to fifth; and then 18 mi. 98 rd. to its destination. What was the length of the trip?

32. Set down 3 da. 13 hr. 39 min. 26 sec. seven times, and then add them.

LESSON 127

Name _____

PRACTICAL ARTICLE 76 Day of the Week _____

OBJECTIVE

- Solve problems involving the subtraction of the compound numbers

Directions: Complete the following problems.

1. I have 67 bu. 2 pk. of wheat: how much will remain after selling 34 bu. 3 pk.?

(2)

	bu.	pk.	qt.	pt.
From	12	0	1	0
Take	8	2	1	1

(3)

	bu.	pk.	qt.	pt.
	5	0	0	0
	1	0	0	1

(4)

	ga.	qt.	pt.
From	17	2	1
Take	13	3	0

(5)

	gal.	qt.	pt.	gi.
	43	1	1	2
	23	3	1	3

(6)

	T.	cwt.	lb.
From	14	12	50
Take	10	13	75

(7)

	T.	cwt.	lb.	oz.
	16	7	18	14
	5	6	75	15

(8)

	mi.	rd.
From	18	198
Take	11	236

(9)

	yd.	ft.	in.
	4	1	10
	2	1	11

(10)

	A.	sq. rd.
From	327	148
Take	77	155

(11)

sq. yd.	sq. ft.	sq. in.
19	6	72
16	6	112

(12)

	C.	cu. ft.
From	28	116
Take	19	119

(13)

cu. yd.	cu. ft.	cu. in.
18	7	927
9	15	928

(14)

	hr.	min.	sec.
From	18	43	27
Take	17	51	45

(15)

da.	hr.	min.	sec.
245	17	40	37
190	11	44	42

16. If 2 bu. 1 pk. 1 qt. be taken from a bag containing 4 bushels of hickory nuts, what quantity will remain?

17. From 100 bu. take 24 bu. 1 pt.

18. I bought 46 lb. 4 oz. of rice: after selling 19 lb. 8 oz., how much remained?

19. A wagon loaded with hay weighs 32 cwt. 66 lb.; the wagon alone weighs 8 cwt. 67 lb.: what is the weight of the hay?

20. It is 24899 miles round the earth: after a man has traveled 100 mi. 41 rd. what distance will remain?

21. I had a farm containing 146 A. 80 sq. rd. of land. I gave my son 86 A. 94 sq. rd.: how much was left?

22. From 8 C. 50 cu. ft. of wood, 3 C. 75 cu. ft. are taken: how much is left?

23. A cask of wine containing 63 gal. leaded; only 51 gal. 1 qt. 2 gi. remained: how much was lost?

24. From 5 da. 10 hr. 27 min. 15 sec. take 2 da. 4 hr. 13 min. 29 sec.

LESSON 128

Name _____

TEST ARTICLE 76

Day of the Week _____

OBJECTIVE

- Review or test students on Article 76 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. From 40 bu. take 20 bu. 3 qt.

2. 39 bu. 1 pk. 1 qt. - 19 bu. 3 pk. 3 qt. = ?

3. From 100 gal. take 49 gal. 3 qt. 2 gi.

4. From 353 gal. 1 pt. take 203 gal. 3 qt.

5. From 3 T. 13 cwt. 23 lb. take 1 T. 18 cwt. 5 lb.

6. From 1 T. 1 cwt. 1 lb. 1 oz. take 11 cwt. 11 lb. 11 oz.

7. From 47 mi. 180 rd. take 23 mi. 250 rd.

8. From 16 yd. 2 ft. 1 in. take 9 yd. 1 ft. 2 in.

9. 81 yd. 6 in. - 18 yd. 8 in. = ?

10. From 9 sq. mi. 100' A. take 4 sq. mi. 370 A.

11. 39 sq. yd. 4 sq. ft. 44 sq. in. - 21 sq. yd. 7 sq. ft. 89 sq. in. = ?

12. From 300 sq. mi. 300 A. 100 sq. rd. take 100 sq. mi. 300 A. 150 sq. rd.

13. From 36 cu. yd. 10 cu. ft. 800 cu. in. take 8 cu. yd. 19 cu. ft. 900 cu. in.

14. Take 18 C. 1500 cu. in. from 81 C. 1478 cu. in.

15. 5 hr. 6 min. 22 sec. - 2 hr. 20 min. 20 sec. = ?

16. From 7 wk. 6 da. 5 hr. 4 min. 3 sec. take 3 wk. 4 da. 5 hr. 6 min. 7 sec.

17. Take 9 lb. 7 oz. 16 pwt. from 15 lb. 3 oz. 3 pwt.

18. 5 lb 4 ʒ 3 ʒ 1 ℈ - 2 lb 6 ʒ 6 ʒ 2 ℈ = ?

19. From 14° 7' 10" take 9° 18' 30".

20. From 19 reams take 12 reams 4 quires.

21. From 3 gross 4 dozen take 1 gross 8 dozen.

22. From 1 O. 3 f. ʒ 2 f. ʒ take 13 f. ʒ.

23. If 25 bu. 3 pk. 2 qt. have been sold from 40 bu. of peanuts, what quantity is left?

24. A farmer has 450 bu. of potatoes; if he sells 273 bu. 2 pk. what quantity will he have left?

25. The time between two cities by steamer is 2 wk. 2 hr.; by railroad, 5 da. 19 hr.; how much time is gained by the railroad route?

26. From a tank containing 327 gal. 2 qt. 1 pt., 10 gal. 3 qt. 1 pt. leaked out; how much remains?

27. If a tract of 36 A. 120 sq. rd. be cut from a farm of 120 A., how much will be left?

28. A quantity of pig iron, weighing 17 T. 5 cwt. 48 lb., was melted to make stove castings, which, when cast, weighed 17 T. 1 cwt. 90 lb.; how much metal was lost in the work?

29. From a pile of wood containing 106 C. 105 cu. ft., there was taken away a boat load of 87 C. 120 cu. ft.; how much remained?

30. A cart weighed 13 cwt. 80 lb., and, after being filled with coal, weighed 3 T. 11 cwt. 90 lb.; what was the weight of the coal?

31. A ship was 13° 7' 20" from a port, and sailed 4° 43' 40" toward it; how far from the port was it then?

32. How much will be left of a mass of medicine weighing 1 lb 1 ʒ., after 7 ℥ 5 ʒ 2 ℈ 10 gr. have been made into pills?

33. A boat laden with 750 T. 60 lb. was sunk, and 473 T. 90 lb. of the freight was saved; how much was lost?

34. The regular time between two cities was 100 hr. 10 min., and the train arrived 3 hr. 52 min. ahead of time; how long had it taken to make the run?

35. A man contracted to deliver 100 C. of wood, and has only 78 C. 96 cu. ft.; how much does he lack?

36. A man having 89 bu. 1 pk. of clover seed, sold 37 bu. 3 pk. to each of his two brothers; how much has he remaining?

37. From 30 days subtract 5 da. 12 hr. 19 minutes three times.

LESSON 129

Name _____

PRACTICAL ARTICLE 77 Day of the Week _____

OBJECTIVE

- Solve problems involving the difference between dates

Directions: Complete the following problems.

1. A note, dated April 14, 1875, was paid February 12, 1877: find the time between these dates.

2. The Independence of the United States was declared July 4, 1776: what length of time had elapsed on the 1st of September, 1876?

3. The first crusade ended July 15, 1099; the third crusade, July 12, 1191: find the difference of time between these dates.

4. Magna Charta was signed June 15, 1215; Mary, Queen of Scots, was beheaded February 8, 1587: find the difference of time between these dates.

5. The battle of Hastings was fought Oct. 14, 1066; William, Prince of Orange, landed at Tor Bay Nov. 5, 1688: what was the difference of time between the two events?

6. The battle of Austerlitz was fought December 2, 1805; the battle of Waterloo, June 18, 1815: find the difference of time.

LESSON 130

Name _____

TEST ARTICLE 77

Day of the Week _____

OBJECTIVE

- Review or test students on Article 77 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Money was borrowed May 18, 1882, and returned Jan. 6, 1884; how long had it been kept?

2. The battle of Monmouth was fought June 28, 1778, and the battle of Antietam September 17, 1862; what time elapsed between the two events?

3. Washington was born February 22, 1732, and died December 14, 1799; at what age did he die?

4. The pilgrims landed December 21, 1620; how long was that before the Declaration of Independence, July 4, 1776?

5. What time elapsed between the surrender at Yorktown, October 19, 1781, and the signing of the treaty of peace, September 3, 1783?

6. A child born December 3, 1876, commenced school August 27, 1883; at what age was that?

7. How old was Washington at the battle of Monmouth? (See examples 2 and 3.)

8. What time elapsed from the battle of Lexington, April 19, 1775, to the firing on Fort Sumter, April 12, 1861?

LESSON 131

Name _____

PRACTICAL ARTICLE 78 Day of the Week _____

OBJECTIVE

- Solve problems by finding the difference between dates in days

Directions: Complete the following problems.

1. Find the number of days from May 10 to Oct. 21.

2. Find the number of days from March 17 to September 12.

3. A note dated April 18, 1877, is due June 20, 1877: how many days does it run?

4. A note dated Sept. 5, 1877, is due Dec. 7, 1877: how many days does it run?

5. Find the number of days from Oct. 12, 1877, to May 25, 1878.

6. Find the number of days from Aug. 20, 1875, to March 8, 1876.

LESSON 132

Name _____

TEST ARTICLE 78

Day of the Week _____

OBJECTIVE

- Review or test students on Article 78 of Practical Arithmetic

Directions: Instructors can use all or a selected subset of these problems as a review, to informally check for understanding, or as a formal test. If children do not show proficiency, review related concepts and retest.

1. Find the number of days from Aug. 5 to the second day of the next December.

2. How many days from Nov. 15, 1871, to Jan. 18, 1872?

3. How many days from Oct. 20, 1877, to Mar. 15, 1878?

4. How many days from Jan. 12, 1880, to Oct. 15, 1880?

5. How many days from June 5 to Dec. 25?

6. A servant was hired May 18, and discharged November 29; for how many days should she be paid?

7. How many days from Apr. 6, 1875, to Apr. 1, 1876?

8. Corn was planted April 18, and was ripe September 27; how many days was that?

LESSON 133

Name _____

PRACTICAL ARTICLE 79 Day of the Week _____

OBJECTIVE

- Solve problems involving the multiplication of compound numbers

Directions: Complete the following problems.

1. A farmer takes to mill 5 bags of wheat, each containing 2 bu. 3 pk.: how much had he in all?

2. Multiply 2 bu. 1 pk. 1 qt. 1 pt. by 6.

3. Multiply 2 bu. 2 pk. 2 qt. by 9.

4. If 4 bu. 3 pk. 3 qt. 1 pt. of wheat make 1 bl. of flour, how much will make 12 bl.?

5. Find the weight of 9 hogsheads of sugar, each weighing 8 cwt. 62 lb.

6. How much hay in 7 loads, each weighing 10 cwt. 89 lb.?

7. If a ship sail 208 mi. 176 rd. a day, how far will it sail in 15 days?

8. Multiply 23 cu. yd. 9 cu. ft. 228 cu. in. by 12.

9. Multiply 16 cwt. 74 lb. by 119.

10. Multiply 47 gal. 3 qt. 1 pt. by 59.

11. A travels 27 mi. 155 rd. in 1 day: how far will he travel in one month of 31 days?

12. In 17 piles of wood, each pile containing 7 C. 98 cu. ft.: what is the quantity of wood?

13. Multiply 2 wk. 4 da. 13 hr. 48 min. 39 sec. by 75.

14. A planter sold 75 hogsheads of sugar, each weighing 10 cwt. 84 lb., to a refiner, for 6 ct. a pound. The refiner sold the sugar for 8 ct. a pound: how much did he gain?

15. A cotton-factor sold 425 bales of cotton, each weighing 4 cwt. 85 lb., for 13 ct. a pound. He paid $24735 for the cotton: how much did he gain?

LESSON 134

Name _____

TEST ARTICLE 79

Day of the Week _____

OBJECTIVE

- Review or test students on Article 79 of Practical Arithmetic

1. 3 bu. 2 pk. 5 qt. 1 pt. x 8 = ?

2. 7 gal. 3 qt. 1 pt. 3 gi. x 8 = ?

3. 3 cwt. 27 lb. 8 oz. x 10 =?

4. 5 yd. 2 ft. 7 in. x H =?

5. 3 sq. yd. 7 sq. ft. 72 sq. in. x 6=?

6. 7 cu. ft. 700 cu. in. x 10=?

7. 3 oz. 7 pwt. 10 gr. x 24=?

8. 3 3 2 9 12 gr. x 60=?

9. 3 gal. 1 pt. 1 gi. x 72=?

10. 2° 10' 20" x 36=?

11. 3 quires 10 sheets x 120=?

12. 3 mi. 190 rd. x 77=?

13. 13 hr. 24 min. 36 sec. x 99 = ?

14. What will be the weight of 27 castings, 1 T. 12 cwt. 42 lb. each?

15. If an acre will produce 6 bu. 3 pk. 5 qt. of wheat, how much can be raised on 20 acres?

16. If a stream flows 17 yd. 2 ft. 8 in. in a minute, how far would that be in an hour?

17. If a square rod produces 7 qt. 1 pt. of strawberries, what' quantity could be raised on 1 A.?

18. A steamer makes a trip in 1 da. 5 hr. 19 min.; what time would be required for 20 trips?

19. If a quart of berries can be picked in 14 min. 20 sec., how long would it take to pick 1 pk.?

20. If a herd of cattle consumes 9 T. 3 cwt. 18 lb. daily, how much fodder would be required for the month of November?

21. If 34 sq. yd. 8 sq. ft. CO sq. in. of flooring are required for one floor, how much will be needed for 14 floors?

22. If 1 qt. of seed will produce 1 bu. 1 pk. 1 qt. of grain, how much grain will 1 bu. of seed produce?

LESSON 135

Name _____

PRACTICAL ARTICLE 80

Day of the Week _____

OBJECTIVE

- Solve problems involving the division of compound numbers

Directions: Complete the following problems.

1. Divide 14 bu. 2 pk. 1 qt. by 3.

	(2)				(3)			
	bu.	pk.	qt.		da.	hr.	min.	sec.
7)	33	2	6	5)	17	12	56	15

4. Divide 67 bu. 3 pk. 4 qt. 1 pt. by 5.

5. Eleven casks of sugar weigh 35 cwt. 44 lb. 12 oz.: what is the average weight of each?

6. I traveled 39 mi. 288 rd. in 7 hr.: at what rate per hour did I travel?

7. Divide 69 A. 64 sq. rd. by 16.

8. 490 bu. 2 pk. 4 qt. ÷ 100.

9. 265 lb. 10 oz. ÷ 50.

10. 45 T. 18 cwt. ÷17.

11. 114 da. 22 hr. 45 min. 18 sec. ÷ 54.

12. 10 cwt. 27 lb. 13 oz. ÷ 23.

13. 309 bu. 2 pk. 2 qt. ÷ 78.

14. 127 gal. 3 qt. 1 pt. 3 gi. ÷ 63.

15. 788 mi. 169 rd. ÷ 319.

16. A farmer has two farms, one of 104 A. 117 sq. rd.; the other, 87 A. 78 sq. rd. He reserves 40 A. 40 sq. rd., and divides the remainder equally among his 3 sons: what is the share of each son?

17. A farmer's crop consisted of 5000 bu. 3 pk. of corn one year, and 7245 bu. 2 pk. the year following. He sold 8022 bu. 1 pk. and placed the remainder in 8 cribs, each crib containing an equal amount: how many bushels in each crib?

18. A speculator bought 6 adjoining pieces of land, each containing 4 A. 80 sq. rd. He divided the whole into 54 lots, and sold them at $5 a sq. rd.: how much did he get for each lot?

19. Add 35 lb. 9 oz., 75 lb. 14 oz., 85 lb. 15 oz.; from the sum take 186 lb. 14 oz.; multiply the remainder by 8; divide the product by 64: what is the result?

LESSON 136

Name _____

TEST ARTICLE 80

Day of the Week _____

OBJECTIVE

- Review or test students on Article 80 of Practical Arithmetic

1. Divide 32 bu. 1 pk. 3 qt. by 9.

2. Divide 1 T. 9 cwt. 80 lb. 8 oz. by 8.

3. Divide 22 yd. 2 ft. by 6.

4. Divide 8 sq. yd. 4 sq. ft. 16 sq. in. by 10.

5. Divide 2 da. 15 hr. 12 min. by 18.

6. Divide 3 oz. 11 pwt. 16 gr. by 20.

7. Divide 2 ℥ 6 ʒ by 12.

8. Divide 225 gal. 3 qt. 1 pt. 2 gi. by 30.

9. Divide 238 yd. 1 ft. by 33.

10. Divide 67 sq. yd. by 54.

11. Divide 230 da. 13 hr. 20 min. by 100.

12. Divide 19 cu. yd. 9 cu. ft. 864 cu. in. by 19.

13. A man raised 237 bu. 3 pk. 2 qt. of raspberries on 10 A.; how much was that per acre?

14. If 19 jars would contain 103 gal. 3 qt. 1 pt. 1 gi., what would one contain?

15. If 11 cwt. 79 lb. 12 oz. of sugar be packed in 12 kegs, how much will each contain?

16. One hundred cu. yd. of earth are to be hauled away in 18 carts; how much will that be for each?

17. A glacier moved 43 yd. in 701 da. 13 hr. 22 min.; how long did it take to move 1 yd.?

18. A planet moved 13° 30' -50" in 25 days; what would be the average motion per day?

19. Fifteen equal bins contain 3740 bu. 2 pk. 4 qt. of wheat; how much is in each?

20. A steamer goes 183 mi. 144 rd. per day; how far is that per hour?

21. In 7 days, of 10 hours each, a furnace will turn out 242 T. 18 cwt. of blooms; how much is that per hour?

22. A gardener raised 275 bu. of beets on an acre of ground; what was the yield per square rod?

LESSON 137/8 Name _____

PRACTICAL ARTICLES 81 & 82 Day of the Week _____

OBJECTIVE

- Determine the difference of longitude and time between different places

Directions: Complete the following problems related to Article 81 using the following table:

15° of longitude — 1 hour of time.
15' of longitude = 1 min. of time.
15" of longitude = 1 sec. of time.

1. How many hr. min. and sec. of time correspond to 18° 25' 30" of longitude?

2. The difference of longitude between two places is 30°: what is their difference of time? 2 hr.

3. The difference of longitude between two places is 71° 4': what is the difference of time? 4 hr. 44 min. 16 sec.

4. The difference of longitude between New York and Cincinnati is 10° 35': what is the difference of time?

5. The difference of time between Cincinnati and Philadelphia is 37 min. 20 sec.: what is the difference of longitude? 9° 20'.

6. The difference of time between New York and St. Louis is 1 hr. 4 min. 56 sec.: what is the difference of longitude?

7. The difference of time between London and Washington is 5 hr. 8 min. 4 sec.: what is the difference of longitude?

Directions: Complete the following problems related to Article 82.

8. When it is noon at Cincinnati, what is the time at Philadelphia?

9. When it is 11 o'clock A. M. at New York, what is the time in longitude 30° east of New York?

10. When 12 o'clock (noon) at Philadelphia, what is the time at Cincinnati?

11. When it is 11 o'clock A. M. at New York, what is the time at St. Louis?

12. Wheeling, W. Va., is in longitude 80° 42' west: the mouth of the Columbia river, in longitude 124° west: when it is 1 o'clock P. M. at Wheeling, what is the time at the mouth of Columbia river?

LESSON 139

Name _____

TEST ARTICLES 81 & 82

Day of the Week _____

OBJECTIVE

- Determine the differences of time and longitude

Directions: Find the differences in time, corresponding to the following differences in longitude:

1. 40°

2. 33° 20'

3. 36° 17'

4. 69° 51'

5. 100° 10'

6. 49° 13' 30"

7. 66° 45"

8. 70° 17' 15"

9. 99° 9'

10. 111° 51' 30"

11. 58° 58' 15"

12. 97° 53'

Directions: Find the differences in time, corresponding to the following differences in longitude:

13. 11 hr. 17 min. 13 sec.

14. 6 hr. 59 min. 17 sec.

15. 10 hr. 10 min. 10 sec.

16. 7 hr. 17 min. 27 sec.

17. 15 hr. 14 min. 29 sec.

18. 4 hr. 45 min. 10 sec.

19. 5 hr. 29 min. 25 sec.

20. 47 min. 47 sec.

21. A man travels east 29°; will his watch be fast or slow then, and how much?

22. A boat sails 47° west; how much will her chronometer gain or lose on the time at the point reached?

23. A team travels eastward 45' a day; will its day be lengthened or shortened, and how much?

24. What is the difference of time between two places whose longitudes are 29° east, and 54° west?

25. When it is 7 o'clock A. M. at a place in 93° west longitude, what is the time at another place in 39° west longitude?

26. When it is 7 o'clock A. M. at a place in 107° east longitude, what is the time at another place in 40° east longitude?

27. When it is 11 o'clock A. M. at a place in 40° west longitude, what is the time at another place in 70° east longitude?

28. When it is 3 o'clock P. M. at a place in 3° east longitude, what is the time at another place in 68° west longitude?

29. When it is 6 o'clock A. M. in 90° east longitude, what is the time in 90° west longitude?

30. What is the difference of time between two places, one in 37° 35' east longitude, the other in 47° 10' west longitude?

