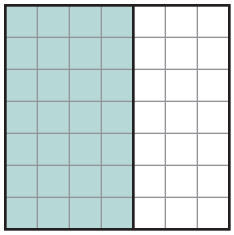
Skills Practice

Name _____ Date _____

I. Writing Equivalent Expressions Using the Distributive Property

A. Complete each equation to represent the model.

1.

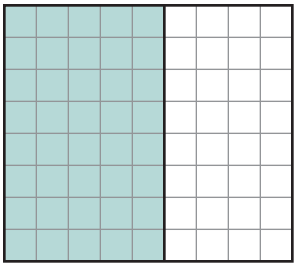


$7 \times (4 + 3) = 7 \times$ ____ $+ 7 \times$ ____

$=$ ____ $+ 21$

$=$ ____

2.

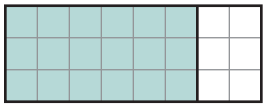


$8 \times (5 + 4) = 8 \times$ ____ $+ 8 \times$ ____

$= 40 +$ ____

$=$ ____

3.

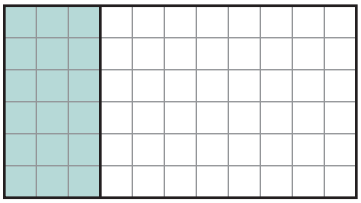


$3 \times ($____ $+ 2) = 3 \times 6 +$ ____ $\times 2$

$=$ ____ $+ 6$

$=$ ____

4.

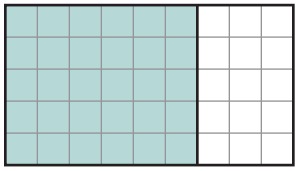


____ $\times (3 + 8) = 6 \times 3 +$ ____ $\times 8$

$=$ ____ $+ 48$

$=$ ____

5.

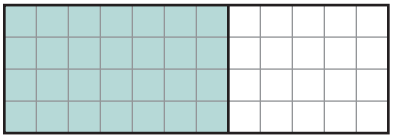


$5 \times (6 + 3) = 5 \times$ ____ $+ 5 \times$ ____

$= 30 +$ ____

$=$ ____

6.



____ $\times (7 + 5) = 4 \times$ ____ $+ 4 \times 5$

$= 28 +$ ____

$=$ ____

B. Identify the expression that shows a correct way to decompose each.

1. 10×8

2. 9×12

3. 13×7

4. 9×8

5. 12×6

6. 13×11

a. $9(8 + 4)$

b. $13(7 + 4)$

c. $9(6 + 2)$

d. $10(7 + 1)$

e. $12(3 \times 3)$

f. $10(4 \times 4)$

g. $13(3 + 4)$

h. $12(4 + 2)$

C. Match each expression to the equivalent addition expression.

1. $35 + 28$

2. $18 + 36$

3. $121 + 22$

4. $14 + 77$

5. $27 + 12$

6. $56 + 42$

a. $7 \times (8 + 6)$

b. $7 \times (2 + 11)$

c. $11 \times (11 + 2)$

d. $6 \times (3 + 6)$

e. $3 \times (9 + 4)$

f. $7 \times (5 + 4)$

D. Complete each equation.

1. $8 \times 12 = 8 \times (\_\_\_\_ + 10)$

2. $5 \times 14 = 5 \times (10 + \_\_\_\_)$

3. $7 \times 13 = 7 \times (\_\_\_\_ + 10)$

4. $9 \times 11 = 9 \times (\_\_\_\_ + 1)$

5. $11 \times 15 = 11 \times (\_\_\_\_ + 10)$

6. $12 \times 12 = 12 \times (10 + \_\_\_\_)$

II. Identifying Common Factors and Common Multiples

A. List the factors of each number. Then, determine the common factor(s).

1. 25, 45

2. 48, 20

3. 32, 56

4. 15, 16

5. 32, 80

6. 25, 36

B. Construct a factor tree and write the prime factorization for each number.

1. 18

2. 56

3. 54

4. 108

5. 72

6. 60

C. Write the prime factorization for each number in Part B using powers.

1. 18

2. 56

3. 54

4. 108

5. 72

6. 60

D. Rewrite each numeric expression using the Distributive Property and the greatest common factor (GCF).

1. 56 + 35

2. 90 + 27

3. 54 + 72

4. 36 + 60

5. 32 + 28

6. 88 + 66

E. List the multiples of each number. Then, determine the least common multiple.

1. 6, 9

2. 12, 30

3. 4, 7

4. 42, 70

5. 8, 11

6. 24, 40

F. Write the prime factorization for each number. Then, determine the greatest common factor (GCF) and the least common multiple (LCM).

1. 28, 32

2. 40, 100

3. 18, 45

4. 30, 70

5. 50, 105

6. 126, 84

III. Least Common Multiple and Greatest Common Factor

A. Use the scenario to answer each question.

1. Emilio's family volunteers at the local soup kitchen every 30 days. Emilio has swimming lessons every 9 days. He has both activities this Saturday. When will he have both activities again on the same day?

2. Yuko is volunteering at the food bank. He is creating Thanksgiving food baskets to give to local families. He has 192 cornbread muffins, 96 cans of vegetables, and 64 boxes of stuffing mix. What is the greatest number of baskets Yuko can create if he wants to use all of the items and have the same number of each item in each basket? How many of each item will be in a basket?

3. At the middle school, the bell rings every 40 minutes to tell the students to change classes. Across the street the clock above city hall chimes every 30 minutes. Both the school bell and the clock ring at noon. When will both bells ring again at the same time?

4. Belinda babysits her neighbor's children in the evening every 14 days. Belinda goes to visit her grandmother in the afternoon every 21 days. Belinda has both activities planned for today. Will Belinda have both activities again on the same day within 30 days? Explain your reasoning.

5. Hector is dividing students into groups for a nature hike. He wants to divide the sixth and seventh graders so that each group has the same number of both sixth graders and seventh graders. There are 21 sixth graders and 56 seventh graders signed up for the hike. Into how many groups can the students be divided? How many sixth graders and how many seventh graders will be in each group?

6. Ramona is filling window box planters that will be sold to benefit a local charity. She has 56 pansies, 42 tulips, and 28 marigolds. What is the greatest number of planters she can fill if she wants to use all of the flowers and have the same number of each type of flower in each planter? How many of each flower type will be in a planter?