Name _____ Date _____

Solve the following pairs of problems. Circle the pairs where both problems have the same answer.

1. a. $7 + (6 + 4)$

    b. $(7 + 6) + 4$

5. a. $(3 + 2) \times 5$

    b. $3 + (2 \times 5)$

2. a. $(3 \times 2) \times 4$

    b. $3 \times (2 \times 4)$

6. a. $(8 \div 2) \times 2$

    b. $8 \div (2 \times 2)$

3. a. $(2 \times 1) \times 5$

    b. $2 \times (1 \times 5)$

7. a. $(9 - 5) + 3$

    b. $9 - (5 + 3)$

4. a. $(4 \times 2) \times 2$

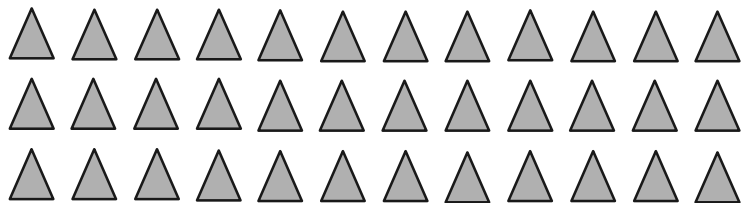   b. $4 \times (2 \times 2)$
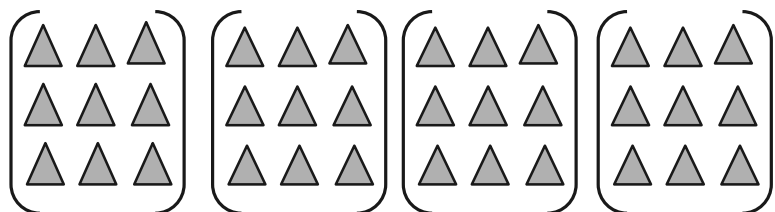
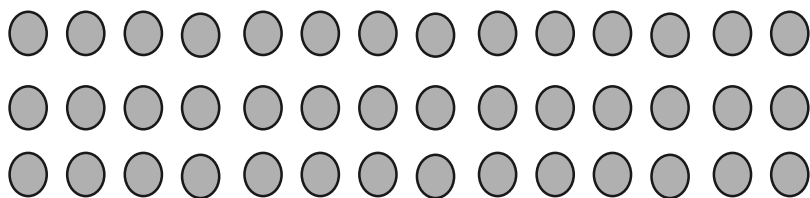8. a. $(8 \times 5) - 4$

    b. $8 \times (5 - 4)$

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Lesson 9:   Model the associative property as a strategy to multiply.

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Name _____   Date _____

1. Use the array to complete the equation.

△ △ △ △ △ △ △ △ △ △ △ △
△ △ △ △ △ △ △ △ △ △ △ △
△ △ △ △ △ △ △ △ △ △ △ △

a. 3 × 12 = _____

(△ △ △ / △ △ △ / △ △ △) (△ △ △ / △ △ △ / △ △ △) (△ △ △ / △ △ △ / △ △ △) (△ △ △ / △ △ △ / △ △ △)

b. (3 × 3) × 4

  = _____ × 4

  = _____

○○○○○○○○○○○○○○
○○○○○○○○○○○○○○
○○○○○○○○○○○○○○

c. 3 × 14 = _____

d. (_____ × _____) × 7

  = _____ × _____

  = _____

Lesson 9:   Model the associative property as a strategy to multiply.

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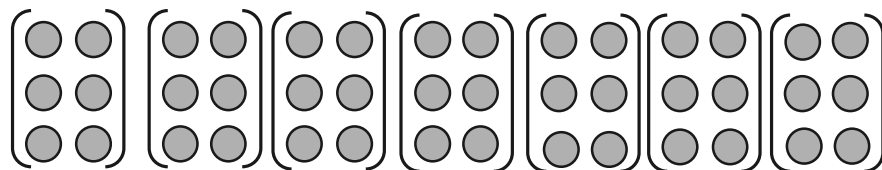
2. Place parentheses in the equations to simplify. Then, solve. The first one has been done for you.

a.

$3 \times 16 = 3 \times (2 \times 8)$

$= (3 \times 2) \times 8$ — **48**

$= \underline{\quad 6 \quad} \times 8$

b.

$2 \times 14 = 2 \times (2 \times 7)$

$= (2 \times 2) \times 7$

$= \underline{\qquad} \times 7$

c.

$3 \times 12 = 3 \times (3 \times 4)$

$= 3 \times 3 \times 4$

$= \underline{\qquad} \times \underline{\qquad}$

d.

$3 \times 14 = 3 \times 2 \times 7$

$= 3 \times 2 \times 7$

$= \underline{\qquad} \times \underline{\qquad}$

e.

$15 \times 3 = 5 \times 3 \times 3$

$= 5 \times 3 \times 3$

$= \underline{\qquad} \times \underline{\qquad}$

f.

$15 \times 2 = 5 \times 3 \times 2$

$= 5 \times 3 \times 2$

$= \underline{\qquad} \times \underline{\qquad}$

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3. Charlotte finds the answer to 16×2 by thinking about 8×4. Explain her strategy.

Lesson 9: Model the associative property as a strategy to multiply.

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