

Student: \_\_\_\_\_  
Date: \_\_\_\_\_

Instructor: Deb Wertz  
Course: MAP102 MASTER

Assignment: Homework #4

1. Use the commutative property of addition to write an expression equivalent to the following.

$$13x + y$$

The answer is \_\_\_\_\_.

2. Use the commutative property of multiplication to write an expression equivalent to the following.

$$g \cdot h$$

The answer is \_\_\_\_\_.

3. Use the commutative property of multiplication to write an expression equivalent to the following.

$$\frac{1}{6} \cdot \frac{x}{8}$$

The answer is \_\_\_\_\_.  
(Do not multiply.)

4. Use the associative property of multiplication to write an expression equivalent to the following.

$$10 \cdot (2x)$$

$10 \cdot (2x) =$  \_\_\_\_\_ (Do not simplify.)

5. Use the associative property of addition to write an expression equivalent to the following.

$$(x + 9.7) + y$$

The answer is \_\_\_\_\_.

6. Use an associative property to write an equivalent expression.

$$(22x) \cdot y$$

$(22x) \cdot y =$  \_\_\_\_\_  
(Type the terms of your expression in the same order as they appear in the original expression.)

7. Write an expression for the amount of money (in cents) in  $n$  quarters.

\_\_\_\_\_ cents  
(Use integers or decimals for any numbers in the expression.)

8. Use a commutative property to complete the statement.

$$3x + 13 =$$

$3x + 13 =$  \_\_\_\_\_

9. Complete the following statement to illustrate the additive inverse property.

$$\frac{2}{4} + \left(-\frac{2}{4}\right) = \underline{\quad ? \quad}$$

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$$\frac{2}{4} + \left(-\frac{2}{4}\right) = \underline{\hspace{2cm}}$$

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10. Complete the following statement to illustrate the multiplicative identity property.

$$3 \cdot 1 = \underline{\quad ? \quad}$$

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$$3 \cdot 1 = \underline{\hspace{2cm}}$$

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11. Complete the statement to illustrate the associative property.

$$12(4y) = \underline{\hspace{2cm}}$$

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$$12(4y) = \underline{\hspace{2cm}}$$

(Type the terms of your expression in the same order as they appear in the original expression. Do not perform the calculation.)

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12. In the statement, a property of real numbers has been incorrectly applied. Correct the right side of the statement.

$$3(6y) = (3 \cdot 6)(3y)$$

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$$3(6y) = \underline{\hspace{2cm}}$$

(Do not perform the calculation. Type the terms of your expression in the same order as they appear in the original expression.)

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13. Name the only real number that is its own opposite, and explain why this is so.

Select the correct choice below and fill in the answer box to complete your choice.

- A.** If a real number  $a$  satisfies the given condition, then  $a = a$ . The only real number that satisfies this equation is                     .
- B.** If a real number  $a$  satisfies the given condition, then  $a^2 = -a$ . The only real number that satisfies this equation is                     .
- C.** If a real number  $a$  satisfies the given condition, then  $a = \frac{1}{a}$ . The only real number that satisfies this equation is                     .
- D.** If a real number  $a$  satisfies the given condition, then  $a = -a$ . The only real number that satisfies this equation is                     .

1.  $y + 13x$

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2.  $h \cdot g$

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3.  $\frac{x}{8} \cdot \frac{1}{6}$

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4.  $(10 \cdot 2)x$

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5.  $x + (9.7 + y)$

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6.  $22 \cdot (x \cdot y)$

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7.  $25n$

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8.  $13 + 3x$

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9.  $0$

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10.  $3$

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11.  $(12 \cdot 4) \cdot y$

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12.  $(3 \cdot 6) \cdot y$

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13. D.

If a real number  $a$  satisfies the given condition, then  $a = -a$ . The only real number that satisfies this equation is

0.

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