

PRE-ALGEBRA: Quiz 1.1-1.4 – Answer Key

Name: _____ Date: _____ Score: _____

1. Round 123,456 to the nearest ten thousand. 120,000

2. Determine the property of addition or multiplication depicted by the given identity.

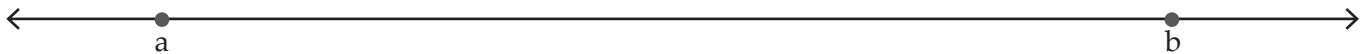
A. $3 \cdot 1 = 3$ Multiplication Identity Property

B. $(7 + 4) + 5 = 7 + (4 + 5)$ Associative Property of Addition

C. $3 + 0 = 3$ Additive Identity Property

D. $8 \cdot 2 \cdot 9 = 2 \cdot 9 \cdot 8$ Commutative Property of Multiplication

3. Write the inequality represented by a and b: $a < b$



4. Multiplication is repeated addition.

5. Division is repeated subtraction.

6. Find the perimeter of a rectangle whose length is 5 inches and width is 9 inches.

$$P = 2L + 2W$$

$$P = 2(5) + 2(9)$$

$$P = 10 + 18$$

$$P = 28 \text{ inches}$$

7. Find the area of a square whose side length is 14 feet.

$$A = L \cdot W \text{ or } A = S^2$$

$$A = 196 \text{ square feet}$$

8. What are the 3 mathematical symbols that indicate division? $\sqrt{\quad}$ \div $-$

9. Simplify $575/23$.

25

10. What is the difference between a prime and composite number?

Prime is only divisible by 1 and itself. A composite number is any non-prime integer.

11. Find all the whole number factors of 36.

1, 2, 3, 4, 6, 9, 12, 18, 36

12. Find the prime factors of 360. (use either method)

2 · 2 · 2 · 3 · 3 · 5

13. Express the prime factorization of 360 using exponents.

$2^3 \cdot 3^2 \cdot 5$

PRE-ALGEBRA: Quiz 1.5-1.7 – Answer Key

Name: _____ Date: _____ Score: _____

1. List the Order of Operations (using the operation names, not acronyms):

Parentheses - grouping symbols

Exponents

Multiplication

Division

Addition

Subtraction

2. Using the Order of Operations, evaluate the following expressions:

A. $2 \{2 + 2 [2 + 2]\}$ 20

B. $2 \cdot 3^2 - 12$ 6

C. $12 + 2 (3 + 10)^2$ 350

D. $\frac{6^2 + 8^2}{(2 + 3)^2}$ 4

3. In your own words, using variables or words, explain the Distributive Property.

Multiply before solving the operation within the grouping symbol

4. Demonstrate your knowledge of how to use the Distributive Property by solving:

$$4(5 + 11) = 20 + 44 = 64$$

5. Define variable. A symbol (usually a letter) that stands for a value that may vary.
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6. What is the difference between an expression and an equation? Equations have an = sign, but an expression does not have an = sign.
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7. What is the Inverse Operation of Addition? Subtraction
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8. What is the Inverse Operation of Division? Multiplication
-

9. What are the 5 steps to solve a word problem?

1. **Set up a variable dictionary.**

2. **Set up an equation.**

3. **Solve the equation.**

4. **Answer the question.**

5. **Look back or check your answer.**

10. Solve for x.

A. $x - 9 = 15$

$$x - 9 + 9 = 15 + 9$$

$$x = 24$$

B. $3x = 24$

$$\frac{3x}{3} = \frac{24}{3}$$

$$x = 8$$

11. The area of a rectangle is 120 square feet. If the length of the rectangle is 12 feet, find the width of the rectangle. Use the 5 steps to solve the word problem.

1. **A = Area, L = Length, W = Width**

$$A = L \cdot W$$

2. $\frac{120}{12} = \frac{12}{12} \cdot W$

3. $10 = W$

4. **Width = 10**

5. $120 = 12 \cdot 10$

PRE-ALGEBRA: Chapter 1 Test – Answer Key

Name: _____ Date: _____ Score: _____

- Round 123,456,789 to the nearest ten million. 120,000,000
- Determine the property depicted:
 - $(7 + 4) + 3 = 7 + (4 + 3)$ Associative Property of Addition
 - $3 + 0 = 3$ Additive Identity
 - $3 \cdot 1 = 3$ Multiplicative Identity
 - $8 \cdot 3 \cdot 6 = 6 \cdot 3 \cdot 8$ Commutative Property of Multiplication
 - $8(9 + 2) = 8 \cdot 9 + 8 \cdot 2$ Distributive Property with respect to addition
 - $8(9 - 2) = 8 \cdot 9 - 8 \cdot 2$ Distributive Property with respect to subtraction
 - $6 \cdot 0 = 0$ Multiplication by Zero
- Find the perimeter of a rectangle whose length is 6 inches and width is 10 inches.
 $P = 2L + 2W$
 $P = 2(6) + 2(10)$
 $P = 12 + 20$
 $P = 32$ inches
- What is the area of the above rectangle?
 $A = L \cdot W$
 $A = 6 \cdot 10$
 $A = 60$ inches sq.
- Find all the whole number factors of 128.
1, 2, 4, 8, 16, 32, 64, 128
- What is the area of a square with a side of 4 cm?
 $A = s^2$
 $A = (4)^2$
 $A = 16$ cm. sq.
- Find all the prime factors of 128; use exponents in your answer.
 2^7
- Simplify the given expressions.
 - $2 \cdot 17 + 13 - 3$
 $34 + 13 - 3$
44
 - $30 - 2 \cdot 15$
 $30 - 30$
0

C. $3(8 + 4) \div 3$

$$\begin{aligned} & 3(12) \div 3 \\ & 36 \div 3 \\ & 12 \end{aligned}$$

D. $2 \cdot (8 + 12) \div 4$

$$\begin{aligned} & 2(20) \div 4 \\ & 40 \div 4 \\ & 10 \end{aligned}$$

E. $\frac{64 - (8 \cdot 6 - 3)}{4 \cdot 7 - 9}$

$$\frac{64 - (48 - 3)}{28 - 9}$$

$$\frac{19}{19} = 1$$

9. Using the steps to solve a word problem, solve the following:

A. An unknown number is divided by 5 and the result is 4. Find the unknown number.

1. **N = unknown number**

2. $\frac{N}{5} = 4$

3. $5\left(\frac{N}{5}\right) = 4 \cdot 5 \quad N = 20$

4. **The unknown number is 20**

5. $\frac{20}{5} = 4$

B. According to the University Economics Department, the median home price in the U.S. fell \$1,500 over the last month to \$265,000. What was the median home price before the price drop?

1. **N = Median home price before price drop**

2. $N - \$1,500 = \$265,000$

3. $N - \$1,500 + \$1,500 = \$265,000 + \$1,500$
 $N = \$266,500$

4. **The median home price was \$266,500**

5. $\$266,500 - \$1,500 = \$265,000$

C. The Yurok Tribe has the option to purchase 47,000 acres in order to increase its ancestral territory. The first phase would include 22,500 acres in the Cappel and Pecman watersheds. The second phase plans for acreage in the Blue Creek area. How many acres could be purchased in the second phase?

1. **N = Acres that could be purchased in 2nd phase**

2. $22,500 + N = 47,000$
 $-22,500 + 22,500 + N = 47,000 - 22,500$

3. $N = 24,500$

4. **24,500 acres could be purchased in 2nd phase**

5. $22,500 + 24,500 = 47,000$