

Algebra 1 Chapter 1 Pre-Test

Write a variable expression for each word phrase.

- 1.) The 8 more than the product of a number and 4.

$$8 + n * 4 \quad \text{or} \quad 8 + 4n$$

- 2.) The 9 less than the sum of k and 7.
- switch order*

$$k + 7 - 9 \quad \text{or} \quad (k + 7) - 9$$

- 3.) The difference between 12 and b.

- 4.) The quotient of f and 11.

- 5.) Two times the quantity 8 plus w.

$$2 * (8 + w) \quad \text{or} \quad 2(8 + w)$$

Simplify each expression.

- 1.) $3 \times 2^2 + 16 \div 4 - 3$

$$3 * 4 + 16 \div 4 - 3$$

$$12 + 16 \div 4 - 3$$

$$12 + 4 - 3$$

$$16 - 3 = 13$$

- 2.) $8 + [(24 \div 4 \times 10) - 2]$

- 3.) $12 - 3(8^2 + 2^3)$

$$12 - 3(64 + 8)$$

$$12 - 3(72)$$

$$12 - 216 = -204$$

$$4.) 68 - 12 \div 2 \div 3 \times 2^5$$

Evaluate the expression.

1.) $8a + 2(b - c)^2$, for $a = 3$, $b = 7$, and $c = 4$

$$8(3) + 2(7-4)^2$$

$$8(3) + 2(3)^2$$

$$8(3) + 2(9)$$

$$24 + 18 = \boxed{42}$$

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2.) $3x - 2y - y(9 - 4)$, for $x = 4$ and $y = 2$

3.) $def + 6e^3$, for $d = 6$, $e = 2$, $f = 3$

$$(6)(2)(3) + 6(2)^3$$

$$(6)(2)(3) + 6(8)$$

$$36 + 48 = \boxed{84}$$

4.) $\frac{ab}{2} - 3$, for $a = 7$, $b = 8$

Compare. Use $>$, $<$, or $=$ to complete each statement.

1.) $-6.98 > -6.99$

2.) $-3 \underline{\hspace{1cm}} |-8|$

3.) $|-12| \underline{\hspace{1cm}} |-5|$

$$12 > 5$$

4.) $2 \underline{\hspace{1cm}} -|-9|$

Determine whether each number is rational or irrational. In addition, name the set(s) of numbers to which each number belongs.

1.) 6.779 \square rational terminal decimal

2.) $0.567567567\dots$ rational repeating decimal

3.) 9 rational whole, integers, counting

4.) 0

5.) -3

6.) π irrational

Perfect Squares
 $\sqrt{1}, \sqrt{4}, \sqrt{9}, \sqrt{16}, \sqrt{25}, \sqrt{36},$
 $\sqrt{49}, \sqrt{64}, \sqrt{81}, \sqrt{100} \dots$

7.) $\sqrt{16}$

8.) $\sqrt{50}$ irrational

9.) $\frac{1}{2}$ rational - fraction

Find each sum.

1.) $-8 + (-5)$ same \rightarrow sum
 $8 + 5 = 13$
 $\square -13$

2.) $9 + 3$

3.) $-6 + 8$ different \rightarrow difference
 $8 - 6 = 2$
 $\square 2$

4.) $4 + (-11)$ different \rightarrow difference
 $11 - 4 = 7$
 $\square -7$

Find the difference of each.

1.) $8 - 12 = \boxed{-4}$

$8 + (-12)$
 $12 - 8 = 4$

2.) $-9 - 4 = \boxed{-13}$ $-9 + (-4) = -13$

3.) $3 - (-5)$
 $3 + 5 = \boxed{8}$

4.) $-12 - (-6)$

Find each.

1.) $8(-5) = -40$

2.) $(7)(-3)^2 = (7)(-3)(-3)$
 $(7)(9) = \boxed{63}$

3.) $(-9)(4)$

4.) $(-8)(-2) = \boxed{16}$

5.) $\frac{-2}{3} \div \frac{3}{4}$
 $\frac{-2}{3} * \frac{4}{3} = \boxed{\frac{-8}{9}}$ Keep change Flip

6.) $84 \div (-12)$

7.) $\frac{240}{(-2)(-5)} = \boxed{24}$

Evaluate each expression.

1.) $-ab^2$ for $a = 2$ and $b = -3$

$$-(2)(-3)^2$$
$$-(2)(9) = \boxed{-18}$$

$$(-3)^2 = (-3)(-3) = 9$$

2.) $-(-w)^2$ for $w = 3$

3.) $-x^3 + xy$ for $x = 4$ and $y = -5$

$$-(4)^3 + (4)(-5)$$
$$-64 + (-20) = \boxed{-84}$$

$$(-x)^3 = -(x)^3$$

Simplify each expression.

1.) $\frac{2}{5}(5a + 45)$

Distribute Slappin'

$$\frac{2}{5}\left(\frac{5a}{1}\right) + \frac{2}{5}\left(\frac{45}{1}\right) = \frac{10a}{5} + \frac{90}{5}$$
$$\boxed{2a + 18}$$

2.) $6(x + 3) - 4x$

3.) $-8 - 4(3b + 7)$

$$-8 - 12b - 28 = \boxed{-12b - 36}$$

4.) $-(4s^2 + 1)$

Commutative, Associative, Identity, Inverse

Name the property that each equation illustrates.

1.) $(4 \cdot 5) \cdot 2 = 4 \cdot (5 \cdot 2)$
Associative

2.) $23 + 54 + 27 = 23 + 27 + 54$

3.) $5 + 0 = 5$ *identity*

4.) $\frac{2}{3}(\frac{3}{2}) = 1$

5.) $3(a + b) = 3a + 3b$
Distributive

Label each quadrant. Next, plot the points below.

- 1.) A (6, -4)
- 2.) B (-7, 2)
- 3.) C (0, 8)
- 4.) D (3, 9)
- 5.) E (-7, -1)
- 6.) F (-4, 0)

