

Algebra 1 Chapter 1 Pre-Test

Write a variable expression for each word phrase.

1.) ~~Write~~ 8 more than the ^{*}product of a number and 4.

$$8 + x * 4$$

$$8 + (x * 4)$$

$$8 + 4x$$

2.) ~~The~~ 9 less than the ⁺sum of k and 7.

switch order

$$k + 7 - 9$$

$$(k + 7) - 9$$

3.) The difference between 12 and b.

4.) The quotient of f and 11.

5.) Two times the quantity 8 plus w.

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$$2 * (8 + w)$$

$$2(8 + w)$$

Simplify each expression.

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

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

$$8 + [(6 * 10) - 2]$$

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

$$8 + [60 - 2]$$

$$8 + 58 = \boxed{66}$$

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 $c = 4$

$$68 - 12 \div 2 \div 3 \times 2^5$$

$$68 - \underbrace{12 \div 2 \div 3} \times 32$$

$$68 - \underbrace{6 \div 3} \times 32$$

$$68 - 2 \times 32$$

$$68 - 64 = \boxed{4}$$

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

$$3(4) - 2(2) - 2(9 - 4)$$

$$\rightarrow 3(4) - 2(2) - 2(5)$$

$$12 - 4 - 10 = 8 - 10 = \boxed{-2}$$

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

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

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

$$36 + 6(8)$$

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

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

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

1.) $-6.98 \underline{>} -6.99$

2.) $-3 \underline{\quad} |-8|$

3.) $|-12| \underline{\quad} |-5|$

$$12 > 5$$

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

- 4.) 0 Rational - whole number, integer

5.) -3

- 6.) π Irrational

7.) $\sqrt{16}$

- 8.) $\sqrt{50}$ Irrational (not perfect square)

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

Perfect Squares

1	
4	81
9	100
16	
25	
36	
49	
64	

Find each sum.

1.) $-8 + (-5)$ same \rightarrow sum
 $= \boxed{-13}$ $8 + 5 = 13$

2.) $9 + 3$

3.) $-6 + 8$ PLUS!! different \rightarrow difference
 $\boxed{2}$ $8 - 6 = 2$
 $8 + (-6) = 2$

4.) $4 + (-11)$
 $4 - 11$

Find the difference of each.

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

2.) $-9 - 4$

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

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

Find each.

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

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

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

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

Keep, Change, Flip!

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

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

7.) $\frac{240}{(-2)(-5)} = \frac{240}{10} = \boxed{24}$

Evaluate each expression.

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

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

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

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

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

Simplify each expression.

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

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

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

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

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

PEMDAS

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

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)

