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.

$8+4x$ $4x+8$ $8+(x*4)$

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.

$2*(8+w)$ $2(8+w)$

Simplify each expression.

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

PEMDAS

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

$8+[(6\times10)-2]$

$8+[60-2]$

$8+58=66$

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

$68-12\div2\div3*2^5$

$68-12\div2\div3*32$

$68-6\div3*32$

$68-2*32$

$68-64=4$

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

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

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

$8(3)+2(9)$

$24+18=42$

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

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

$def = d*e*f$

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

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

$12(3)+6(8)$

$36+6(8)$

$36+48=84$

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

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

1.) -6.98 ___>___ -6.99

> Greater than

< Less than

2.) -3 _____ |-8|

3.) |-12| ___>___ |-5|

$12 > 5$

4.) 2 _____ -|-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 Rational – terminal decimal

2.) 0.567567567… Rational – repeating decimal

3.) 9

4.) 0 Rational – whole, integer

5.) -3

6.) π Irrational

7.) $\sqrt{16}$

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

9.) ½ Rational – fraction

Find each sum. No calculators

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

2.) 9 + 3

3.) -6 + 8 $\boxed{2}$ different → difference

$8 - 6 = \boxed{2}$

4.) 4 + (-11)

No calculator

FInd the difference of each.

1.) 8 - 12 = 8 + (-12) = -4

2.) -9 - 4

3.) 3 - (-5) → +

3 + 5 = 8

4.) -12 - (-6)

No calculator

Find each.

1.) 8(-5) = -40

No calculator

2.) $(7)(-3)^2$ = (7)(-3)(-3)

(7)(9) = 63

3.) (-9)(4)

4.) (-8)(-2) = 16

Keep, Change, Flip

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

6.) 84 ÷ (-12)

7.) $\frac{240}{(-2)(-5)}$ = $\frac{240}{10}$ = 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 $\quad -x^3 = -(x^3)$

$-(4)^3 + (4)(-5)$

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

Simplify each expression.

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

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

$\frac{10a}{5} = 2a \quad \frac{90}{5} = 18$

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

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

$-8 - 12b - 28 \qquad -8 + (-28)$

$\boxed{-12b - 36}$

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

Name the property that each equation illustrates.

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

Associative

2.) $23 + 54 + 27 = 23 + 27 + 54$ (switch order)

Commutative

3.) $5 + 0 = 5$

Identity

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

Inverse

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)