

## The Real Numbers & Properties

Date:

1. Name all sets to which each value belongs.

a)  $\frac{-\sqrt{400}}{\sqrt{16}}$

b)  $1.58\bar{3}$

c)  $\sqrt{95}$

2. Identify the property that justifies each statement.

a)  $(2m - 3n) \cdot p = p \cdot (2m - 3n)$

b)  $\sqrt{15y} + (-\sqrt{15y}) = 0$

c)  $\frac{1}{2}(a + 7b) = \frac{1}{2}a + \frac{7}{2}b$

d)  $(c + 9d) \cdot 1 = (c + 9d)$

3. Name a set of numbers closed under addition but not multiplication.

© Gina Wilson (All Things Algebra), 2015

## Order of Ops & Evaluating Expressions

Date:

Simplify each expression.

1.  $6^3 \div \left\{ (12 + 5^2) - (|-7| - 15)^2 \right\}$

2.  $\frac{3^3 - 6 + \sqrt{-40 + 11^2}}{18 - 6^2 \cdot 2}$

Evaluate the expressions below if  $a = 8$ ,  $b = -2$  and  $c = -9$ .

3.  $|-a^2 - 2bc|$

4.  $-\frac{7}{6}c + \frac{3}{4}ab$

© Gina Wilson (All Things Algebra), 2015

## Multi-Step Equations

**Date:**

**Solve each equation.**

1.  $14a - (2a + 9) = \frac{2}{3}(12a - 18)$       2.  $-3(10 - x) = 11x - 2(4x + 15)$

3.  $\frac{3}{8} = \frac{6w - 7}{2w + 14}$

4. Solve  $F = \frac{9}{5}C + 32$  for  $C$

## Word Problems

**Date:**

1. The leg of an isosceles triangle is two less than three times the length of its base. If the perimeter of the triangle is 45 meters, find the length of the leg.
2. Find three consecutive numbers such that five times the largest number is 17 less than three times the sum of the smallest and median number.

## Absolute Value Equations

Date:

Solve each equation. \*Be sure to check for extraneous solutions. \*

1.  $|4x + 6| = 26$

2.  $\frac{|-8 - 5r|}{6} = 2$

3.  $8 - |7y - 9| = 3$

4.  $|8k - 5| = 4k - 23$

## Multi-Step Inequalities

Date:

Solve, graph, and write the solution in interval notation.

1.  $\frac{3(2x + 16)}{-8} \geq x - 1$

2.  $-\frac{5}{4}(24 - 6m) > 14 - \frac{1}{2}(16 - 7m)$

## Compound Inequalities

**Date:**

**Solve, graph, and write the solution in interval notation.**

1.  $2(2 - 3c) \leq -2$  or  $4c + 5 < -3$

2.  $4 - 7a \leq 67$  and  $\frac{5a + 2}{-9} > 2$

3.  $-50 \leq 9n - 2 \leq 25$

## More Compounds Inequalities

**Date:**

**Solve, graph, and write the solution in interval notation.**

1.  $4 - 9x < -68$  and  $-6x - 5 \leq -11$

2.  $10n - 9 < 51$  or  $7 - n \geq 8$

3.  $-2v - 2 > -8$  and  $4v - 7 > 9$

**Absolute  
Value  
Inequalities**

**Date:**

**Solve, graph, and write the solution in interval notation.**

1.  $|6x - 10| \leq 34$

2.  $-6|2v - 6| + 5 < -79$

**Relations &  
Functions**

**Date:**

**For each relation below: a) State the domain and range, and  
b) Determine whether it is a function**

1.  $\{(-1, 4), (0, 5), (1, 4), (2, 7)\}$

a)

b)

2.  $\{(-5, -2), (2, 1), (0, 3), (-5, -4)\}$

a)

b)

3.  $y = 2x - 7$

a)

b)

4.  $y = -x^2 + 3$

a)

b)

