Math 0989
Spring 2016
Quiz #3

Name: _____*Key*_____   Date: _____

1. Use the chart below to place a check mark indicating which sets the item on the left is a member of.

	$\mathbb{N}$	w	$\mathbb{Z}$	$\mathbb{Q}$	$\mathbb{Q}'$	$\mathbb{R}$
-3			✓	✓		✓
$0.\overline{23}$				✓		✓
$\dfrac{0}{71}$		✓	✓	✓		✓
$-\pi$					✓	✓
5	✓	✓	✓	✓		✓

Note: $\mathbb{Q}'$ means the set of not Rational Numbers or Irrational!

Simplify the following using *Order of Operations*

2. $-8 - |5 - 11|$

$-8 - |-6|$

$-8 - 6$

$\boxed{-14}$

3. $9 - (12 - 11)^8 + 4$

$9 - (1)^8 + 4$

$9 - 1 + 4$

$8 + 4$

$\boxed{12}$

Evaluate the expression given the values of x and y.

4. $3x^2 - 2y^2; x = -3 \ \& \ y = -2$

$$3\left(-3\right)^2 - 2\left(-2\right)^2$$

$$3\left(9\right) - 2\left(4\right)$$

$$27 - 8$$

$$\boxed{19}$$

5. The surface area of a cardboard box is given by the formula:

$$S = 2WH + 2LH + 2LW$$

where W and L are the width and length of the base of the box and H is it height. If $W = 2$ centimeters, $L = 8$ centimeters, and $H = 2$ centimeters, find the surface area of the box.

$$S = 2\left(2\right)\left(2\right) + 2\left(8\right)\left(2\right) + 2\left(8\right)\left(2\right)$$

$$= \quad 8 \ + \quad 32 \ + \quad 32$$

$$= \quad 40 + 32$$

$$S = \boxed{72}$$