

**Semester 2**

**Math 9**

***Review of  
Equations from  
Grade 8***

# How to wrap a present...



BE DMAS

## Warm-Up

February 3, 2017

What do you remember from GRADE 8???

1. Solve for the unknown

A.  $3x = 18$   
 $\frac{3x}{3} = \frac{18}{3}$   
 $x = 6$

B.  $8d - 2 = 6$   
 $8d - \cancel{2+2} = 6+2$   
 $\frac{8d}{8} = \frac{8}{8}$   
 $d = 1$

Rewrite so the variable is on the left side

$-10 = 3 - 4x$

$3 - 4x = -10$

$-4x + 3 = -10$   
 $-4x + \cancel{3-3} = -10-3$

$\frac{-4x}{-4} = \frac{-13}{-4}$

$x = \frac{13}{4} \quad 3\frac{1}{4}$

What is the difference between an expression and an equation???

**Expression**-- A mathematical statement made up of numbers and/or variables connected by operations

$$5n+4$$

**Equation**---A mathematical statement in which two expressions are equal.

$$\begin{aligned}5n+4 &= 2 \quad \leftarrow \text{Solve} \\5n + \boxed{4-4} &= 2-4 \\ \frac{5n}{5} &= \frac{-2}{5} \\ n &= \frac{-2}{5} = -0.4\end{aligned}$$

- To solve equations we need to undo operations.

*← opposite*

- Inverse operations reverse each other's results.



- Addition and subtraction are inverse operations



- Multiplication and division are also inverse operations

**\*\*\*Perform the inverse operations in the reverse order\*\*\***

Let's Look at a Basic Equation to remind you how this works...

Undo the operation

$$\text{a) } \frac{3x}{3} = \frac{27}{3}$$

$$x = 9$$

Focus on  
showing  
steps!

$$\text{b) } x - 4 = 10$$

$$x - 4 + 4 = 10 + 4$$

$$x = 14$$

A.  $-27.25 = c + 2.25$

$c + 2.25 = -27.25$

$c + \boxed{2.25 - 2.25} = -27.25 - 2.25$   
 $c = -29.5$

B.  $\frac{3x}{3} = \frac{15.6}{3}$

$x = 5.2$

C.  $-76.05 = -9b$

$\frac{-9b}{-9} = \frac{-76.05}{-9}$

$b = 8.45$

D.  $\frac{w^{(4.5)}}{4.5} = -3.5^{(4.5)}$

$w = -15.75$



$$\frac{d}{7} - 3 = 11$$

$$\frac{d}{7} \boxed{-3+3} = 11+3$$

$$\frac{d}{7} = 14(7)$$

$$d = 98$$

$$-16 = \frac{p}{6} + 2$$

$$\frac{p}{6} + 2 = -16$$

$$\frac{p}{6} \boxed{+2-2} = -16-2$$

$$\frac{p}{6} = -18$$

$$p = -108$$

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SHOW ALL STEPS

Practice The Steps!