

Good morning!

1. turn in homework
2. have a seat!
3. think: To evaluate  $6 - 3x$  at  $x = 5$ ,  
what's the first thing you do?  
The second?
4. HW Assignment will be:
  - \* do practice on notes page 19
  - \* do HW Page 12 & HW Page 13

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**More Review Of Pre-Algebra, Solving One-Step Equations****Vocabulary**

**Solution of an Equation-** The solution of an equation is the value  
(or values) of the variable that makes the equation true.

**Inverse Operations-** Inverse operations are operations which undo one another. Addition and subtraction are inverse operations.  
Multiplication and division are also inverse operations.

Examples: Using Inverse Operations to Solve Equations

a. Solve:  $x - 3 = -8$

$$\begin{array}{r|l} +3 & +3 \\ \hline x & = -5 \end{array}$$

step 1 undo  $-3$  with  $+3$

b. Solve:  $g + 7 = 11$

$$\begin{array}{r|l} -7 & -7 \\ \hline g & = 4 \end{array}$$

step 1 undo addition w/ sub.

c. Solve:  $\frac{x}{4} = 9$

$$\begin{array}{r|l} \times 4 & \times 4 \\ \hline x & = 36 \end{array}$$

step 1 undo div. with mult.

d. Solve:  $\frac{4c}{9} = \frac{-96}{4}$

$$\begin{array}{r|l} \times \frac{9}{4} & \times \frac{9}{4} \\ \hline c & = -24 \end{array}$$

step 1 undo mult. by dividing by 4

e. Solve:  $\frac{2}{3}x = 6$

$$\begin{array}{r|l} \times \frac{3}{2} & \times \frac{3}{2} \\ \hline x & = 9 \end{array}$$

step 1 undo mult. by div. by  $\frac{2}{3}$

$x = \frac{6}{1} \cdot \frac{3}{2}$

$x = 9$

divide fractions by  
mult. by reciprocal.

✓ Understanding Check

a.  $m + 8 = -6$

b.  $p - 2 = -3$

c.  $\frac{k}{2} = -5$

d.  $-6w = -24$

e.  $6 = -5m$

f.  $-15 = x - 4$

g.  $8 = \frac{x}{5}$

h.  $4 = \frac{2}{5}x$

$$\frac{4}{\frac{2}{5}} = x$$

$$4 \cdot \frac{5}{2} = x$$

$$10 = x$$

a. $m = -14$	b. $p = -1$	c. $k = -10$	d. $w = 4$
e. $m = -6/5$	f. $x = -11$	g. $x = 40$	h. $x = 10$

$$-1\frac{1}{5}$$

## 2-1 Solving Two Step Equations

### Example 1: Solving Using Reverse PEMDAS

Solve  $4x + 2 = 10$

$$\begin{array}{r} -2 \quad -2 \\ 4x + 2 = 10 \\ 4x = 8 \\ x = 2 \end{array}$$

Step 1 undo addition by  $-2$   
 Step 2 undo mult. by div by 4

#### Check

$$\begin{array}{r} 4(2) + 2 = 10 \\ 8 + 2 = 10 \\ \checkmark 10 = 10 \end{array}$$

Solve  $\frac{m}{5} - 3 = 9$

$$\begin{array}{r} \frac{m}{5} - 3 = 9 \\ \frac{m}{5} = 12 \\ m = 60 \end{array}$$

Step 1 undo sub. by adding 3  
 Step 2 undo div by mult by 5

#### Check

$$\begin{array}{r} \frac{60}{5} - 3 = 9 \\ 12 - 3 = 9 \\ 9 = 9 \checkmark \end{array}$$

**Example 2: Solving by Multiplying (or dividing) by Negative 1**Solve  $-m + 6 = -11$ 

$$\begin{array}{r} -m + 6 = -11 \\ -6 \quad -6 \\ \hline -m = -17 \\ \hline m = 17 \end{array}$$

Step 1 undo add. by sub. 6  
 Step 2 undo mult. by div by -1

**Check**

$$\begin{array}{l} -(17) + 6 = -11 \\ -17 + 6 = -11 \\ -11 = -11 \\ \checkmark \end{array}$$

**Example 3: Solving with a Variable on the Right Side**Solve  $-5 = 2x - 17$ 

Step 1 \_\_\_\_\_  
 Step 2 \_\_\_\_\_

**Check****Example 4: Solving with a Fraction by the Variable**Solve  $\frac{-2}{3}x - 1 = -9$ 

Step 1 \_\_\_\_\_  
 Step 2 \_\_\_\_\_

**Check**

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✓ Understanding Check

Simplify each expression:

a.  $2y - 3 = 7$

b.  $\frac{x}{9} - 15 = 12$

c.  $-3x + 5 = -7$

d.  $-x + 7 = 12$

e.  $-a - 5 = -8$

f.  $1 = -5c + 11$

g.  $-8 = 5m - 7$

h.  $\frac{1}{4}p - 3 = -8$

i.  $10 = \frac{2}{5}x + 4$

j.  $-3w - 6 = 21$

k.  $\frac{x}{3} - 5 = -7$

l.\*  $6 - 5h = -9$

a. $y=5$	b. $x = 243$	c. $x = 4$
d. $x = -5$	e. $a = 3$	f. $c = 2$
g. $m = -1/5$	h. $p = -20$	i. $x = 15$
j. $w = -9$	k. $x = -6$	j. $h = 3$