

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

P.17

**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:  $x - 3 = -8$   
 $\begin{array}{r} +3 \\ +3 \\ \hline x = -5 \end{array}$

step 1 undo  $-3$  by  $+3$

b. Solve:  $g + 7 = 11$   
 $\begin{array}{r} -7 \\ -7 \\ \hline g = 4 \end{array}$

step 1 undo  $+7$  by  $-7$

c. Solve:  $\frac{x}{4} = 9$   
 $\begin{array}{r} \times 4 \\ \times 4 \\ \hline x = 36 \end{array}$

step 1 undo  $\div 4$  by  $\times 4$

d. Solve:  $4c = -96$   
 $\begin{array}{r} \div 4 \\ \div 4 \\ \hline c = -24 \end{array}$

step 1 undo mult  $4$  by  $\div$  by  $4$

e. Solve:  $\frac{2}{3}x = 6$   
 $\begin{array}{r} \times \frac{3}{2} \\ \times \frac{3}{2} \\ \hline x = 9 \end{array}$

division by  
mult. by recip.

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

✓ 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.  $4 = \frac{2}{5}x$

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

## 2-1 Solving Two Step Equations

### Example 1: Solving Using Reverse PEMDAS

Solve  $4x + 2 = 10$

$$\begin{array}{r|l} -2 & -2 \\ \hline 4x & = 8 \\ \hline x & = 2 \end{array}$$

Step 1 undo +2 by -2  
 Step 2 undo mult 4 by div 4

#### Check

$$\begin{aligned} 4(2) + 2 &= 10 \\ 8 + 2 &= 10 \\ 10 &= 10 \checkmark \end{aligned}$$

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

$$\begin{array}{r|l} +3 & +3 \\ \hline 5 \cdot \frac{m}{5} & = 12 \cdot 5 \\ \hline m & = 60 \end{array}$$

Step 1 undo -3 by +3  
 Step 2 undo div 5 by mult 5

#### Check

$$\begin{aligned} \frac{60}{5} - 3 &= 9 \\ 12 - 3 &= 9 \\ 9 &= 9 \checkmark \end{aligned}$$

**Example 2: Solving by Multiplying (or dividing) by Negative 1**

Solve  $-m + 6 = -11$

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

Step 1 undo +6 by -6  
 Step 2 undo mult. -1 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  $-5 = 2x - 17$

$$\begin{array}{r} 12 = 2x \\ \hline 6 = x \end{array}$$

Step 1 undo -17 by +17  
 Step 2 undo mult by 2 by div by 2

**Check**

$$\begin{array}{l} -5 = 2(6) - 17 \\ -5 = 12 - 17 \\ -5 = -5 \\ \checkmark \end{array}$$

**Example 4: Solving with a Fraction by the Variable**

Solve  $\frac{-2}{3}x - 1 = -9$

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

**Check**

✓ 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.\*  $6 - 5h = -9$

Answers to page 19 practice.

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. $h = 3$