

# Today's Plan:

**Learning Target (standard):** I will solve multi-step equations.

**Students will:** Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

**Teacher will:** Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

**Assessment:** Board work, homework check, stamp activity and homework assignment

**Differentiation:** Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

NAME \_\_\_\_\_

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## BELL RINGER

1.) Solve  $2(2 - x) = 5(x + 5)$ .

$$4 - 2x = 5x + 25$$

2.) Solve  $\frac{1}{5}y = -10$ .

$$y = -50$$

$$4 = 7x + 25$$

$$-21 = 7x$$

$$\boxed{-3 = x}$$

3.) At sunrise the temperature was  $10^{\circ}\text{F}$ . The temperature increase  $4^{\circ}$  by noon but then decreased  $6^{\circ}$  by the end of the day. What was the temperature at the end of the day?

$$10^{\circ}\text{F} + 4^{\circ}\text{F} = 14^{\circ}\text{F}$$

$$14^{\circ}\text{F} - 6^{\circ}\text{F} = 8^{\circ}\text{F}$$

## Order of Operations for Equations:

- 1) Distribute
- 2) Combine like terms on the same side
- 3) Move variables - opposite sides opposite signs
- 4) Move numbers - opposite sides opposite signs
- 5) Multiply/divide both sides by the coefficient

Solve.

$$7) -5(-3x - 2) = -95$$

$$15x + 10 = -95$$

-10      -10

$$\frac{15x}{15} = \frac{-105}{15}$$

$$x = -7$$

Is (3,7) a solution to the equation  $y = 2x + 1$  ?

(-5,8)?

$$7 = 2(3) + 1$$

$$7 = 6 + 1$$

$$7 = 7 \text{ (yes)}$$

$$y = 2(-5) + 1$$

$$y = -10 + 1$$

$$y = -9 \text{ (no)}$$

(2,5)?

$$5 = 2(2) + 1$$

$$5 = 4 + 1$$

$$5 = 5 \text{ (yes)}$$

$$y = 2(-4) + 1$$

$$y = -8 + 1$$

$$y = -7 \text{ (no)}$$

(-4,9)?

Solve.

$$3(5y + 2) - y = 2(y - 3)$$

$$15y + 6 - y = 2y - 6$$

$$14y + 6 = 2y - 6$$

$$12y + 6 = -6$$

$$12y = -12$$

$$y = -1$$

Solve.

$$3 + 4(p + 2) = 2p + 3(p + 4)$$

$$\underline{3} + 4p + \underline{8} = \underline{2p} + \underline{3p} + 12$$

$$4p + \underline{11} = \underline{5p} + 12$$

$$11 = p + 12$$

$$\textcircled{-1 = p}$$

Solve.

$$8x + 37 = 2x - 7(-6x + 5)$$

$$8x + 37 = 2x + 42x - 35$$

$$8x + 37 = 44x - 35$$

$$37 = 36x - 35$$

$$72 = 36x$$

$$\textcircled{x = 2}$$

Solve.

$$-6m - 20 = 1 + 3(-7 + 8m)$$

$$-6m - 20 = 1 - 21 + 24m$$

$$-6m - 20 = -20 + 24m$$

$$-20 = -20 + 30m$$

$$\frac{0}{30} = \frac{30m}{30}$$

$$m = 0$$

Solve.

$$7(-7 + 7n) = 35 + 7n$$

$$-49 + 49n = 35 + 7n$$

$$42n - 49 = 35$$

$$42n = 84$$

$$n = 2$$

# Solve.

$$7x + 2 = -3(3x - 6)$$

$$7x + 2 = -9x + 18$$

$$16x + 2 = 18$$

$$16x = 16$$

$$x = 1$$

## Types of Equations:

- when solving an equation, if the variables cancel out and:
  - a true mathematical statement remains, the equation is said to be an **identity**
  - a false mathematical statement remains, the equation is said to have **no solution**

Solve.

$$\frac{1}{3}(12 - 6x) = 4 - 2x$$

$$4 - 2x = 4 - 2x$$

$$4 = 4$$

identity

Solve.

$$2(g - 2) - 4 = 2(g - 3)$$

$$2g - \underline{4} - 4 = 2g - 6$$

$$2g - 8 = 2g - 6$$

$$-8 \neq -6$$

no solution

# Assignment:

Multi-Step Equations #1-12

\*show ALL work\*

\*write the problem\*