

# 1-7: Solving Equations and Solving Problems

OBJECTIVE: solve equations in one variable

Examples of equations:

$$2t - 1 = 5$$

$$x + 3 > 0$$

$$3(2s - 3) = 6(s+1) - 10$$

- 1) Simplify BOTH sides
- 2) Move numbers to one side
- 3) Move variables to the other side
- 4) Multiply by the reciprocal of the coefficient (DIVIDE)

$$3x + 7 - (2x - 3) = 4(2x - 6)$$

## THREE TYPES OF SOLUTIONS:

### 1) Empty Set (Null Set)

$$2x + 6 - 13 = 2(x + 3)$$

### 2) All Reals (Identity)

$$3x - 5x + 4 = 2x - 4(x - 1)$$

### 3) Solution Set of a number

$$x - 6 = 2x + 1$$

# PRACTICE PROBLEMS- page 41

$$18) \frac{2}{5}(x - 2) = x + 4$$

$$20) 3(1 - t) + 5 = 3(1 + t) - 7$$

$$24) [3y - 2(y - 1)]/6 = -1$$

$$30) \frac{2y}{2y - 1} = \frac{y + 2}{y + 1}$$

Are 0 or 2 a solution?

46) a. Solve for g

$$d = \frac{v^2}{2g}$$

46) b. If  $d = 1000$ , and  $v = 140$ ,  
Solve for g

HW: p. 17 #3,9,13,15,17,21,25,29,33 (To be checked)  
Study for QUIZ 1.1-1. 6: Pg 13 Self Test 1, Pg 36 Self Test 2