

2.1 Solving Equations Using More Than One Operation

**An equation is like: a balanced scale

**Get the variable alone: by using inverse operations

**Undo operations: in reverse order of regular operations
eliminate all + or - last
then do $\times$ or $\div$ last

Examples:

1. $2x + 3 = 15$

$$2x = 15 - 3$$

$$2x = 12$$

$$x = \frac{12}{2}$$

$$\boxed{x = 6}$$

2. $7m - 15 = -71$

$$7m = -71 + 15$$

$$7m = -56$$

$$m = \frac{-56}{7}$$

$$\boxed{m = -8}$$

3. $3y + 4 = -5$

$$3y = -5 - 4$$

$$3y = -9$$

$$y = \frac{-9}{3}$$

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

4. $5 = 3a - 1$

$$5 + 1 = 3a$$

$$6 = 3a$$

$$\frac{6}{3} = a$$

$$\boxed{2 = a}$$

5. $\frac{x}{5} + 5 = 11$

$$\frac{x}{5} = 11 - 5$$

$$\frac{x}{5} = 6$$

$$x = 6(5)$$

$$\boxed{x = 30}$$

6. $-b - 4 = 12$

$$-b = 12 + 4$$

$$-b = 16$$

$$b = \frac{16}{-1}$$

$$\boxed{b = -16}$$

HOMEWORK

Worksheet HW 2.1 Multi-Step Equations