26)

$$5(2x+6) = -4(-5-2x) + 3x$$

$$10x + 30 = 20 + 8x + 3x$$

$$\cancel{10x} + 30 = 20 + 11x$$

$$-\cancel{10x} \qquad -10x$$

$$30 = \cancel{20} + 1x$$

$$-20 \qquad -\cancel{20}$$

$$\boxed{10 = x}$$

$$\boxed{x = 10}$$

$$\frac{10}{1} = \frac{1x}{1}$$

$$10 = x$$

16)

$$-2 = -(n-8)$$

$$-2 = -n + \cancel{8}$$

$$-8 \qquad \cancel{-8}$$

$$\frac{-10}{-1} = \frac{-n}{-1}$$

$$10 = n$$

$$n = 10$$

or

$$-2 = -1(n-8)$$

$$-2 = -1n + \cancel{8}$$

$$-8 \qquad \cancel{-8}$$

$$\frac{-10}{-1} = \frac{-1n}{-1}$$

$$\boxed{10 = n}$$

$$\boxed{n = 10}$$

$$-2 = -n + 8$$
$$+2 \qquad\qquad +2$$

$$0 = -n + \cancel{10}$$
$$-10 \qquad\qquad -\cancel{10}$$

$$\frac{-10}{-1} = \frac{-n}{-1}$$

$$10 = n$$

No Solution or Infinite # of Solutions

Ex: $\cancel{4x} + 2 \neq \cancel{4x} - 1$

$-\cancel{4x} \qquad -\cancel{4x}$

$2 \neq -1$

No Solution $\emptyset$

* when you get an equation that is never true.

Ex: $2(3x + 4) = 6x + 8$

$\cancel{6x} + 8 = \cancel{6x} + 8$

$-\cancel{6x} \qquad -\cancel{6x}$

$8 = 8$

Infinite # of Solutions ∞

* when you get exactly the same on both sides

$-10 \neq -\cancel{14v} + \cancel{14v}$

$-10 \neq 0$

No Solution

Ex: $\frac{1}{5}x - \frac{2}{7} = \frac{1}{7}(14x+3)$

$35\left(\frac{1}{5}x\right) - \boxed{35\left(\frac{2}{7}\right)} = 35\left(\frac{1}{7}\right)(14x+3)$

$7x - 10 = 5(14x+3)$

$\cancel{7x} - 10 = 70x + 15$

$-\cancel{7x} \qquad -7x$

$-10 = 63x + 15$

$-15 \qquad -15$

$-25 = \cancel{63}x$

$\frac{-25}{63} = \frac{\cancel{63}x}{\cancel{63}}$

$x = -\frac{25}{63}$

$5(7) = 35$

$\frac{35}{1} \cdot \frac{1}{5} = \frac{35}{5} = 7$

$\frac{35}{1} \cdot \frac{2}{7} = \frac{70}{7} = 10$

$\frac{35}{1} \cdot \frac{1}{7} = \frac{35}{7} = 5$

$$\frac{1}{5}x - \frac{2}{7} = \frac{1}{7}(14x + 3)$$

$$\frac{1}{5}x - \frac{2}{7} = 2x + \frac{3}{7}$$

$$35\left(\frac{1}{5}x\right) - 35\left(\frac{2}{7}\right) = 35(2x) + 35\left(\frac{3}{7}\right)$$

$$7x - 10 = 70x + 15$$

Scrap

$$\frac{1}{7} \cdot \frac{14}{1} = \frac{14}{7}$$
$$= 2$$

$$\frac{1}{7} \cdot \frac{3}{1} = \frac{3}{7}$$

$$5(7) = 35$$

$$\frac{35}{1} \cdot \frac{3}{7} = \frac{105}{7}$$

2.3 Solving Linear Inequalities

Equations (=)

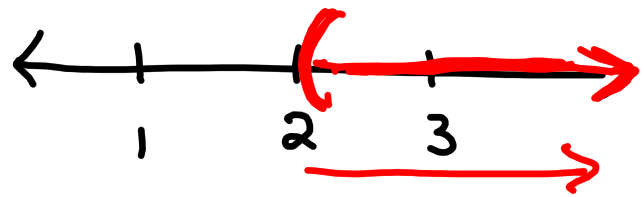
Less than <

greater than >

less than or equal to ≤

greater than or equal to ≥

Ex: $x > 2$

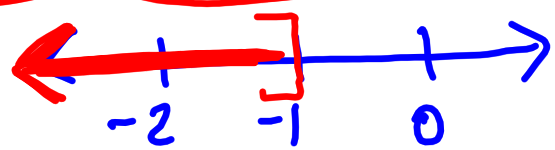


< less

> greater

parentheses

$x \leq -1$



] ≤ less or equal

[≥ greater or equal