

§ 2.4 #s 10, 24, 52, 59, 69

§ 2.5 #s 14, 16, 20 (more to come)

§ 2.4 Linear Inequalities

$$3x + 2 < 6$$

$$3x < 4$$

$$x < \frac{4}{3}$$

$$\checkmark 3x + 2 < 6$$
$$\underline{-2 = -2}$$

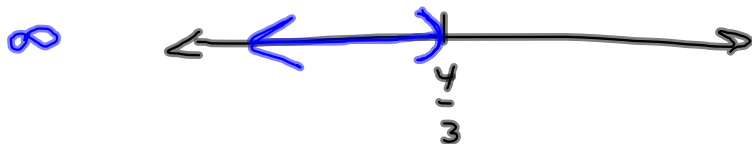
$$\checkmark 3x < 4$$

$$\frac{3x}{3} < \frac{4}{3}$$

$$\checkmark x < \frac{4}{3}$$



Number line



Interval: $(-\infty, \frac{4}{3})$

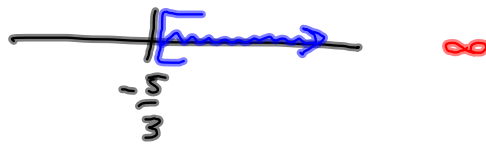
Set-builder: $\{x \mid x < \frac{4}{3}\}$

$$2 - 3x \leq 7$$

$$-3x \leq 5$$

$$\frac{-3x}{-3} \geq \frac{5}{-3}$$

$$x \geq -\frac{5}{3}$$



$$\left[-\frac{5}{3}, \infty\right)$$

$$\textcircled{60} \quad \frac{3x+2}{18} - \frac{1+2x}{6} \leq -\frac{1}{2}$$

LCD = 18

$$\cancel{(18)} \left(\frac{3x+2}{\cancel{18}} \right) - \cancel{(3)} \left(\frac{1+2x}{\cancel{6}} \right) \leq \cancel{(9)} \left(-\frac{1}{\cancel{2}} \right)$$

$$3x+2 - 3(1+2x) \leq -9$$

$$3x+2-3-6x \leq -9$$

$$-3x-1 \leq -9$$

$$\text{FALSE} \quad \cancel{-3x \leq -8} \quad \text{Fred}$$

$$-3x \leq -8$$

$$\frac{-3x}{-3} \geq \frac{-8}{-3}$$

$$\left\{ x \mid x \geq \frac{8}{3} \right\}$$

$$\boxed{\left[\frac{8}{3}, \infty \right)}$$

$$\left\{ x \mid x > \frac{8}{3} \right\} \text{ looks like } \left(\frac{8}{3}, \infty \right)$$

$$\left\{ x \mid x \leq \frac{8}{3} \right\} \text{ looks like } \left(-\infty, \frac{8}{3} \right]$$

Next time S²⁵ Read up on AND's
& OR's