

Chapter 6-1 to 6-4 Test Review

1. Solve and graph. $-2x - 10 > 3x + 8$

$$\begin{array}{rcl} -2x - 10 & > & 3x + 8 \\ -3x & & -3x \end{array}$$

$$\begin{array}{rcl} -2x - 10 & > & 3x + 8 \\ +2x & & +2x \end{array}$$

$$\begin{array}{rcl} -5x - 10 & > & 8 \\ +10 & & +10 \end{array}$$

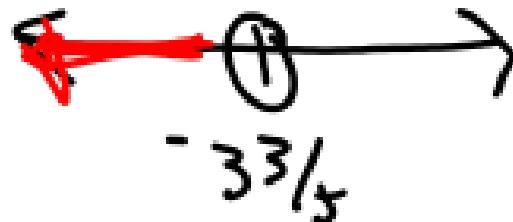
$$\begin{array}{rcl} -10 & > & 5x + 8 \\ -8 & & -8 \end{array}$$

$$\begin{array}{rcl} -5x & > & 18 \\ \hline -5 & & -5 \end{array}$$

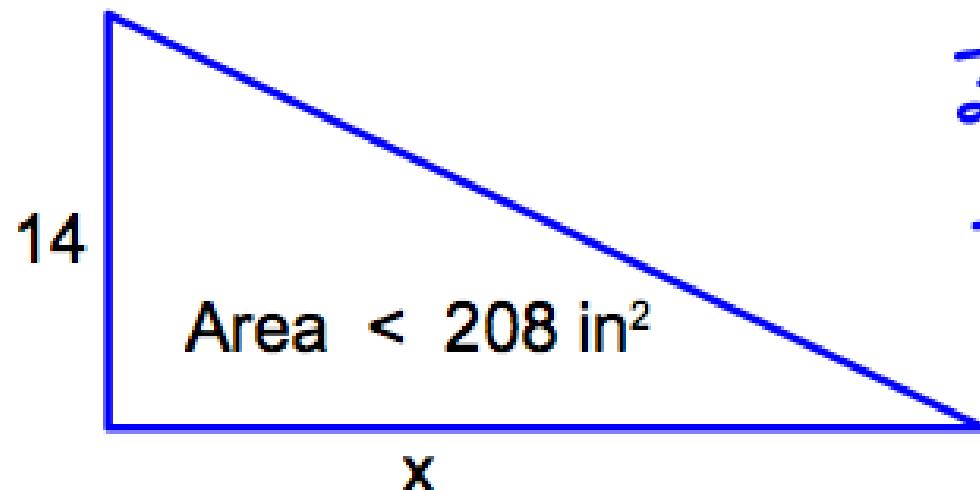
$$\begin{array}{rcl} -18 & > & 5x \\ \hline 5 & & 5 \end{array}$$

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

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



2. Write an inequality for the value of x . Round to the nearest tenth.



$$\frac{1}{2}bh < 208$$

$$\frac{1}{2}(x)(14) < 208$$

$$7x < 208$$

$$\text{Area of } \triangle = \frac{1}{2}bh$$

$$x < 29.7 \text{ in}$$

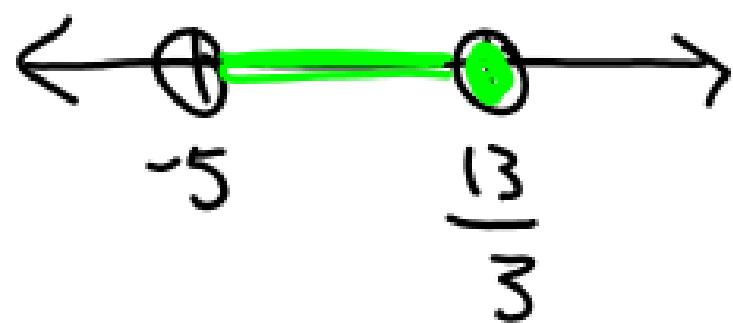
3. Solve and graph $-20 < 3x - 5 \leq 8$

$$-20 < 3x - 5 \quad \text{and} \quad 3x - 5 \leq 8$$
$$\begin{array}{rcl} +5 & & +5 \\ \hline & & \end{array}$$

$$\begin{array}{rcl} -15 < 3x & & \frac{3x}{3} \leq 13 \\ \hline & & \end{array}$$

$$\begin{array}{rcl} -5 < x & & x \leq \frac{13}{3} \\ & & \end{array}$$

$$-5 < x \leq \frac{13}{3}$$



4. Write a compound inequality that describes the graph.

a.



$$-5 < x \leq 3$$

b.



$$x \leq -4 \text{ or } x \geq 1$$

5. Solve the equation. $|3x - 6| + 2 = 20$

$$|3x - 6| + 2 = 20$$
$$|3x - 6| = 18$$

$$3x - 6 = 18$$

$$3x = 24$$

$$x = 8$$

$$3x - 6 = -18$$

$$3x = -12$$

$$x = -4$$