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

$-2x - 10 > 3x + 8$

$-3x \qquad -3x$

$-5x - 10 > 8$

$+10 \qquad +10$

$\dfrac{-5x}{-5} > \dfrac{18}{-5}$

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

$-2x - 10 > 3x + 8$

$+2x \qquad +2x$

$-10 > 5x + 8$

$-8 \qquad -8$

$\dfrac{-18}{5} > \dfrac{5x}{5}$

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

$-3\frac{3}{5}$
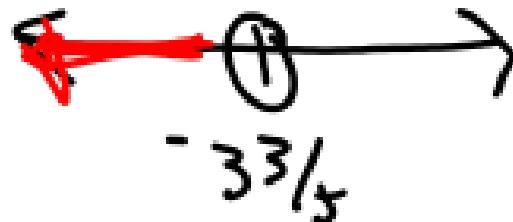
2. Write an inequality for the value of x. Round to the nearest tenth.

14

Area < 208 in²

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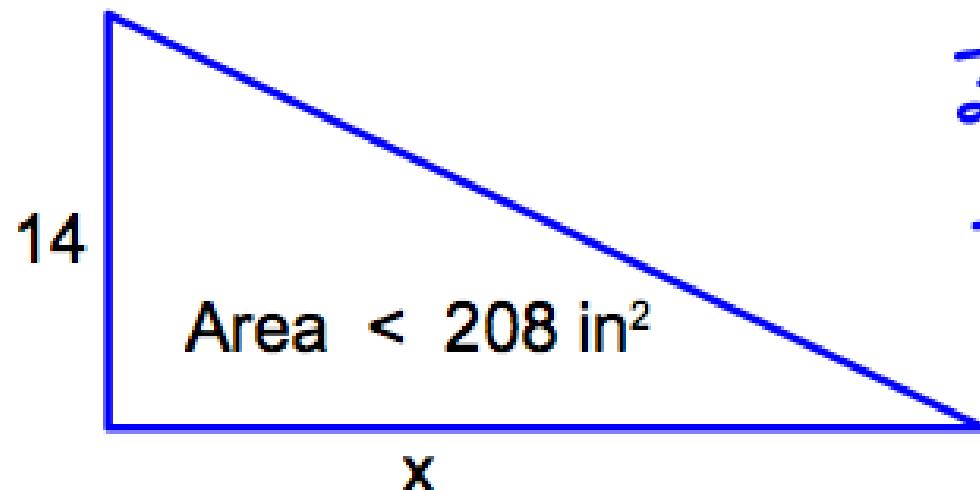
$$\frac{1}{2}bh < 208$$

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

$$7x < 208$$

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

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

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

$-20 < 3x - 5$ and $3x - 5 \leq 8$

$\phantom{-20 < 3x}+5 \qquad +5$

$-15 < \dfrac{3x}{3} \qquad \dfrac{3x}{3} \leq 13$

$-5 < x \qquad\qquad x \leq \dfrac{13}{3}$

$-5 < x \leq \dfrac{13}{3}$
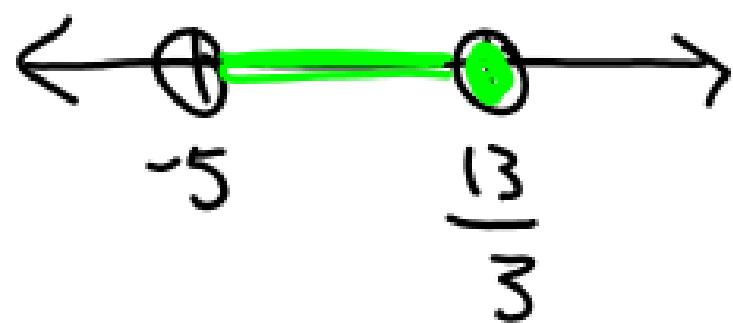
4. Write a compound inequality that describes the graph.

a.

-5   3

$-5 < x \leq 3$

b.

-4   1

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

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

$$-2 \qquad -2$$

$$|3x - 6| = 18$$

$$3x - 6 = 18$$

$$3x = 24$$

$$x = 8$$

$$3x - 6 = -18$$

$$3x = -12$$

$$x = -4$$