Algebra 1R   Name _____
Unit 2 ~ Day 5 Homework

Draw an oval on the graph to represent the solution to each question. Write the corresponding inequality statement.

Example: A hot air balloon at 4000 feet begins its descent. It descends at a rate of 200 feet per minute. The function $f(x) = -200x + 4000$ represents the height of the balloon as it descends. How many minutes have passed if the balloon is below 3000 feet?
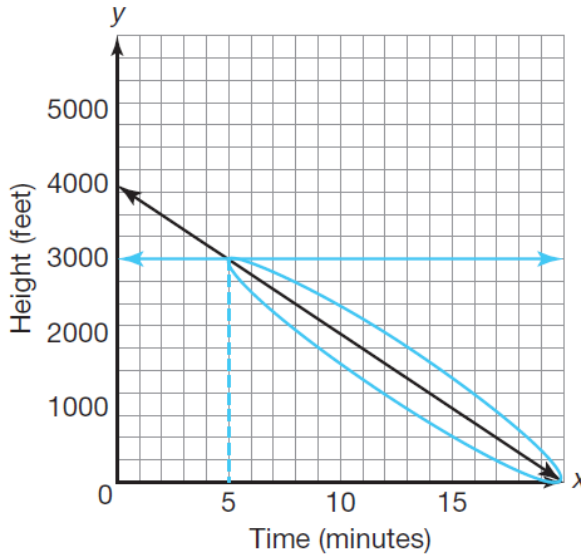
More than 5 minutes have passed if the balloon is below 3000 feet.

$x > 5$

1. A bathtub filled with 55 gallons of water is drained. The water drains at a rate of 5 gallons per minute. The function $f(x) = -5x + 55$ represents the volume of the water in the tub as it drains. How many minutes have passed if the tub still has more than 20 gallons of water remaining in it?
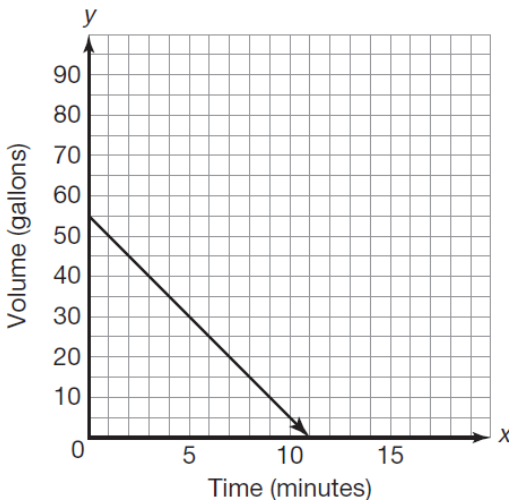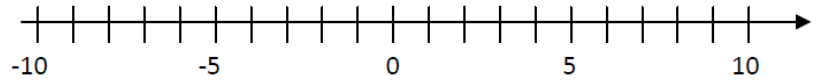
2. A scuba diver is diving from the surface of the water at a rate of 14 feet per minute. The function $f(x) = -14x$ represents the depth of the diver as he dives. How many minutes have passed if the diver is less than 42 feet below the surface.
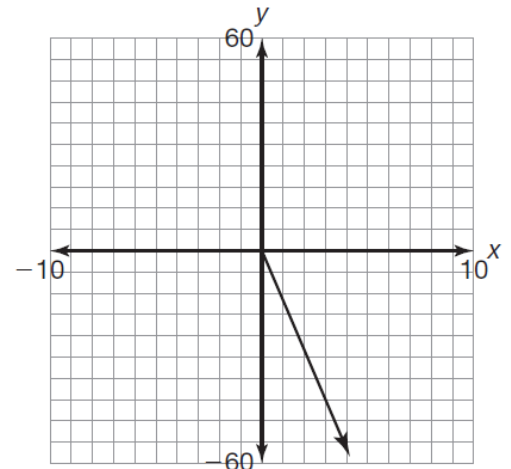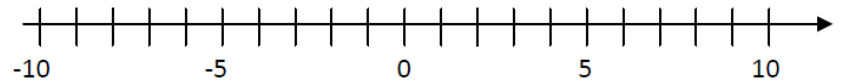
3. Solve the inequality using the properties of inequality and graph the final solution set on the number line provided.
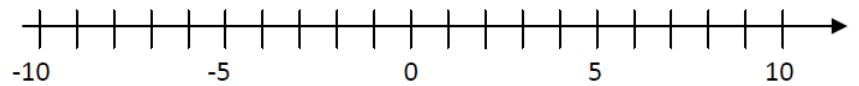
(a) $5x - 6 \leq 24$

(b) $2(5 - x) \leq 12$

(c) $6 - 4x > 18$

(d) $8x - 6(x - 2) > 20 - 2x$