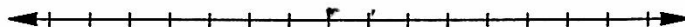


TAKE IT HOME

- 1 Solve the following inequalities and check your answer. Graph the solution on the number line.

$$8x > 4$$

A $8x > 4$



B $63 > -7x$



C $8 - 5x > 43$



D $3 + 2x < 6x - 21$



- 2 The world record time (in minutes) for the 1500 meter run during years in the 1900s can be modeled by the formula $R = 4 - 0.006t$. In this formula, t is the number of years after 1900 and R is the world record time the model predicts for that year. In how many years from the year 1900 does this model predict that the world record will be less than 3.5 minutes?

- 3 Two scales for temperature are Celsius and Fahrenheit. In the United States, we use Fahrenheit to measure temperature. In many countries, however, temperatures are measured in Celsius. The formula for converting temperatures from degrees Celsius, C , to degrees Fahrenheit, F , is $F = 1.8C + 32$. One medical website says that if a baby has a temperature of at least 100.4 degrees Fahrenheit (F), the baby should be seen by a doctor. According to the advice given on the medical website, at what temperatures C should the baby be examined by a doctor?
- 4 An organization can purchase a bulk-mail permit for \$190 per year. With the bulk-mail permit, each piece of mail costs 27.6 cents to send. Without the permit, each piece of mail costs 44 cents to send. How many pieces of mail would an organization need to send in a year to make it cheaper to use a bulk-mail permit?
- 5 *Optional:* A person standing on a tower that is 125 feet tall throws a ball straight up with a velocity of 160 feet/second. The mathematical model for the height, y , of the ball at x seconds after it is thrown is:
 $y = -16(x - 5)^2 + 525$.

When is this ball at least 381 feet high? In the graph, a horizontal line is drawn at 381 feet.

