EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

In Topic C, students extend their knowledge of scale factor from Module 1 to include scale factor represented as a percent. Students are expected to calculate the scale factor given the dimensions of two different scale drawings. Students will also use a given scale factor to calculate the length of unknown dimensions in a scale drawing. In the final lesson of the topic, students use a given scale factor to calculate the area of a scale drawing.

You can expect to see homework that asks your child to do the following:

- Use equations and the scale factor to calculate the horizontal and vertical distances in a scale drawing.
- Create a scale drawing by writing and solving equations.
- Compute the scale factor.
- Find the area of a region by using scale factor.

SAMPLE PROBLEM *(From Lesson 14)*

Race Car 2 is a scale drawing of Race Car 1. The length of Race Car 1 is 12 feet, while the length of Race Car 2 is 36 feet. If the height of Race Car 1 is 6.75 feet, find the scale factor, and write an equation to find the height of Race Car 2. Explain what each part of the equation represents in the situation.

Scale Factor: The larger race car is a scale drawing of the smaller. Therefore, the smaller race car is the whole in the relationship.

$$Quantity = Percent \times Whole$$
$$Larger = Percent \times Smaller$$
$$36 = Percent \times 12$$
$$\frac{36}{12} = 3 = 300\%$$

Height: $6.75(3) = 20.25$

The height of Race Car 2 is 20.25 feet.

The equation shows that the height of Race Car 1 (6.75 feet) multiplied by the scale factor (3) equals the height of Race Car 2, which is 20.25 feet.
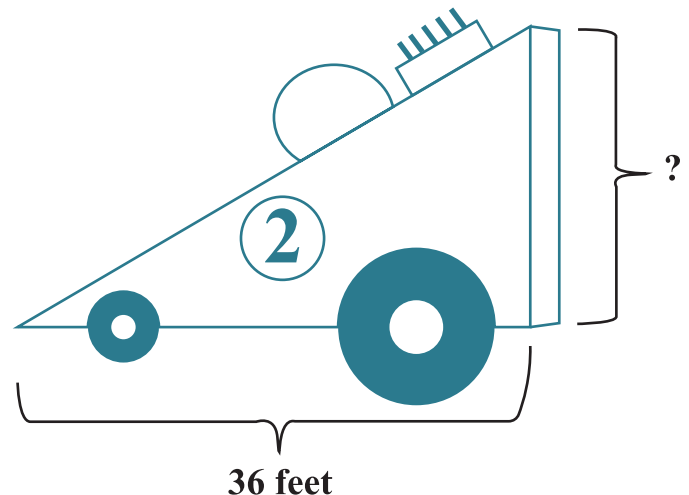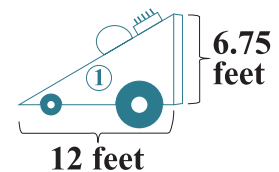

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

You can help at home in many ways. Here are some tips to help you get started.

▪ State a scale factor as a percent. Ask your child whether the result will be an enlargement or a reduction of the original figure. (All scale factors between 0% and 100% will result in a reduction, and all scale factors greater than 100% will result in an enlargement.)

▪ Draw a simple shape such as a rectangle, and provide its dimensions (length and width). Draw another rectangle, and provide one of its dimensions (either length or width). For example, see the following:
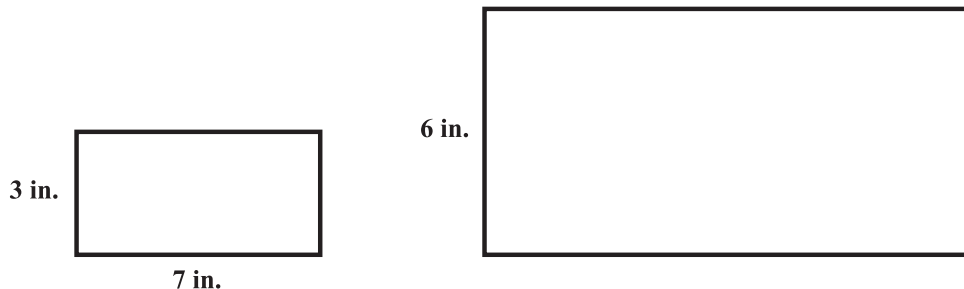
Ask your child to find the scale factor from the original (small) rectangle to the new (large) rectangle, and then use this scale factor to determine the unknown dimension of the new rectangle. For instance, in the example drawings, the scale factor is 200%, because 6 = *Percent* × 3, or 200%. Therefore, the missing side length in the larger drawing is 14 inches because 7(200%) = 7(2) = 14.

▪ In preparation for Topic D, continue to practice converting between percents and decimals. State a percent (e.g., 6% or 325%), and ask your child to convert the percent to a decimal (e.g., 0.06 or 3.25).