

Section 4.2 Math Link

This worksheet will help you with the Math Link on page 145.

1. For the enlargement or reduction of the design you drew for the Math Link on page 138, determine the scale factor. Show your work.

To determine the scale factor,

- Measure the length of your design.
- Measure the length of the actual design.
- Set up a proportion for the scale and the measurements.

$$\text{scale} = \frac{\text{my design length}}{\text{actual design length}}$$

$$\frac{1}{\square} = \underline{\hspace{2cm}}$$

The scale factor is _____.

2. Choose a new feature to add to your design. You might consider a shape such as a triangle, a square, or a circle.

a) Sketch your new feature here. Then, draw it on your scale diagram.

b) Calculate the actual dimensions of the new feature by following these steps.

- Measure the dimensions of the feature you drew.

- Use the scale factor you determined in #1 to calculate the actual dimensions.

3. Explain how you know the scale diagram is proportional to the actual design.

Hint: Use equal ratios.