

▶ **ACTIVITY 8.3** Developing Concepts

Making Conjectures about Similarity

Group Activity for use with Lesson 8.3

GROUP ACTIVITY

Work with a partner.

MATERIALS

- paper
- pencil
- ruler
- protractor
- calculator

▶ **QUESTION** When a figure is enlarged, what appears to be true about corresponding lengths? corresponding angles? corresponding perimeters?

▶ EXPLORING THE CONCEPT

- 1 Photo 1 is an enlargement of Photo 2. Use a ruler to find the length of $\overline{AB}$ in each photo.
- 2 Write the ratio of the length of $\overline{AB}$ in Photo 1 to the length of $\overline{AB}$ in Photo 2.

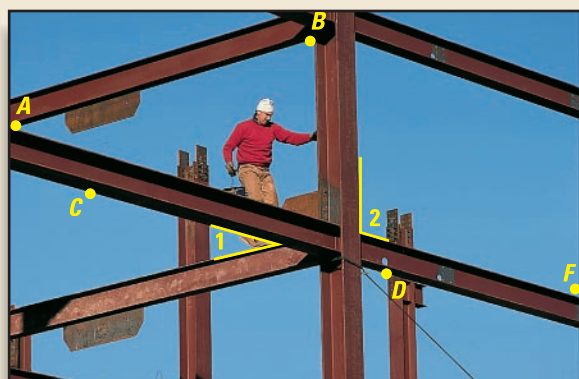


Photo 1

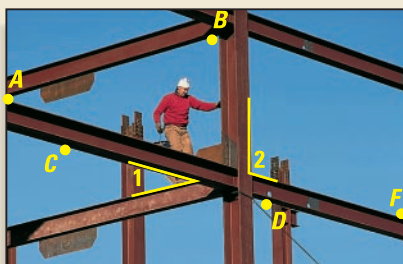


Photo 2

- 3 Use a protractor to find the measure of $\angle 1$ in each photo.
- 4 Write the ratio of $m\angle 1$ in Photo 1 to $m\angle 1$ in Photo 2.
- 5 Continue finding the measurements in the photos. Find the ratios of the measurements in Photo 1 to the measurements in Photo 2. Use the same units throughout the activity. Record your results in a table similar to the one shown.

Measurement	Photo 1	Photo 2	Ratio
AB	4.2 cm	3.0 cm	$\frac{4.2}{3} = 1.4$
AF	?	?	?
CD	?	?	?
$m\angle 1$	?	?	?
$m\angle 2$	?	?	?
Perimeter of photo	?	?	?

▶ DRAWING CONCLUSIONS

1. Suppose a segment in Photo 2 has a length of 5 centimeters. Estimate the length of the corresponding segment in Photo 1.
2. Suppose an angle in Photo 1 has a measure of 35° . Estimate the measure of the corresponding angle in Photo 2.
3. Make some general conclusions about how corresponding lengths, corresponding angles, and corresponding perimeters are related when a figure is enlarged.
4. **CRITICAL THINKING** Make a conjecture about how corresponding areas are related when a figure is enlarged.