# Activity 7.2 Conjectures About Similarity

## Question

**When a figure is enlarged, how are corresponding angles related? How are corresponding lengths related?**

## Materials

- ruler
- calculator
- protractor

## Explore

Photo 1 is an enlargement of Photo 2.

1. Use a ruler to find the length of $\overline{AB}$ in each photo. Then use a calculator to find the ratio of $AB$ in Photo 1 to $AB$ in Photo 2. Round to the nearest tenth.
2. Use a protractor to find $m\angle 1$ in each photo. Then find the ratio of $m\angle 1$ in Photo 1 to $m\angle 1$ in Photo 2.
3. Continue finding measurements in the photos and record your results in a table like the one shown below.


*Photo 1*

| Measurement | Photo 1 | Photo 2 | Ratio |
|---|---|---|---|
| $AB$ | | | |
| $AF$ | | | |
| $CD$ | | | |
| $m\angle 1$ | | | |
| $m\angle 2$ | | | |


*Photo 2*

1) Make a conjecture about the relationship between corresponding lengths when a figure is enlarged.

2) Make a conjecture about the relationship between corresponding angles when a figure is enlarged.

3) Suppose an angle in Photo 2 has a measure of $35^{\circ}$. What is the measure of the corresponding angle in Photo 1?

4) Challenge: Suppose a segment in Photo 1 is 5 centimeters long. What is the measure of the corresponding segment in Photo 2?