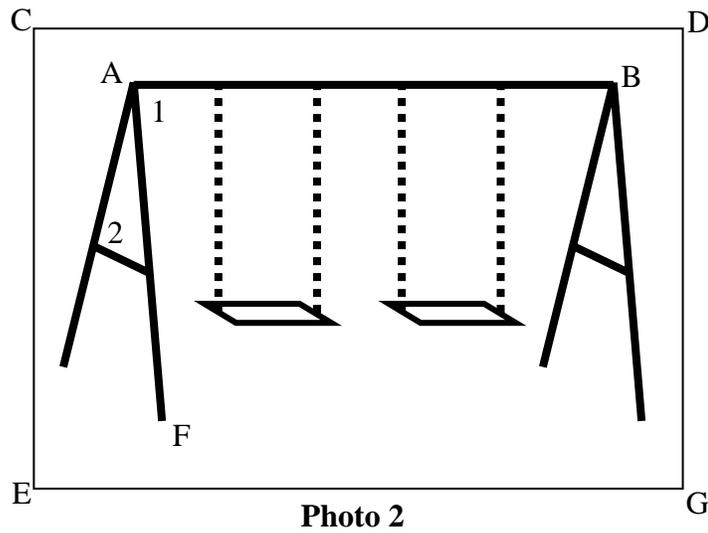
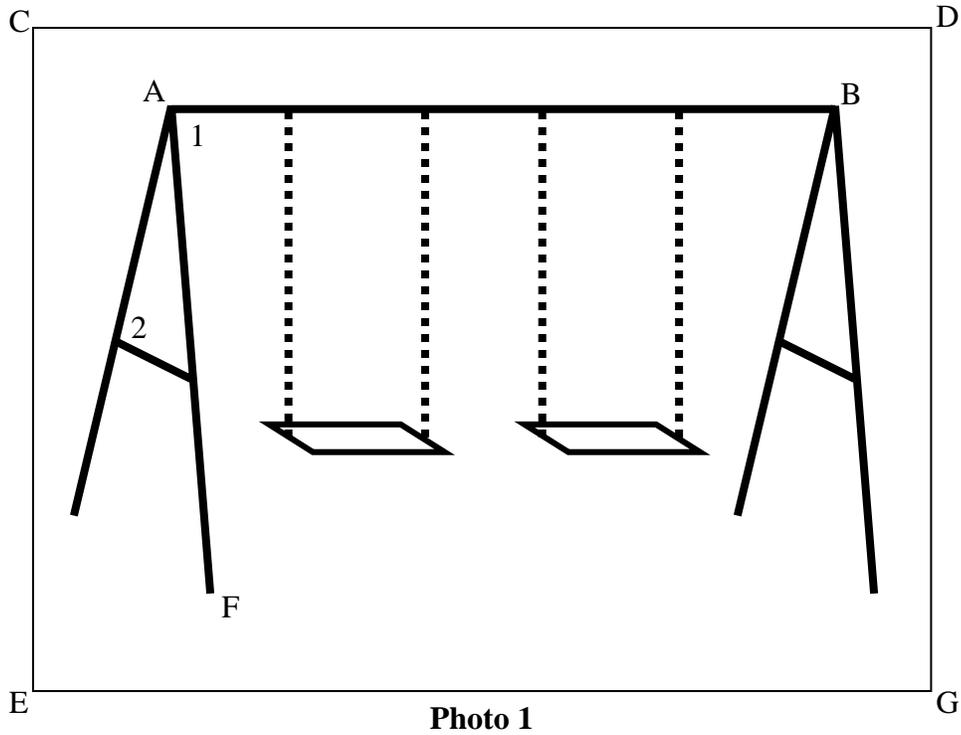


## Comparing Sizes of Figures

Photo 1 is an enlargement of photo 2. Use a ruler to measure the length of  $\overline{AB}$  in each photo. What is the ratio of the first length to the second length?



The ratio is \_\_\_\_\_

## Comparing Sizes of Figures (Continued)

In exercises 1-8, measure the quantity in photo 1 and photo 2 on the previous page. Find the ratio of the first measurement to the second measurement. You can measure lengths in centimeters or inches, but you must use the same units for each exercise.

1.  $\overline{CD} =$  \_\_\_\_\_
2.  $\overline{CE} =$  \_\_\_\_\_
3.  $\overline{AF} =$  \_\_\_\_\_
4. Perimeter of Quadrilateral CDGE = \_\_\_\_\_
5.  $m\angle CDG =$  \_\_\_\_\_
6.  $m\angle 1 =$  \_\_\_\_\_
7.  $m\angle 2 =$  \_\_\_\_\_
8. Area of Quadrilateral CDGE = \_\_\_\_\_
9. When a figure is enlarged, what appears to be true about corresponding lengths? Corresponding angles? Corresponding perimeters? Corresponding areas?
10. Suppose a segment in photo 2 has a measure of 5 centimeters. What would you expect the corresponding segment length to be in photo 1?
11. Suppose an angle in photo 2 has a measure of  $20^\circ$ . What would you expect the corresponding angle's measure to be in photo 1?

- Answers:      The ratio is about 9:6.5 [due to differences in printing and copying, you will need to check these measurements carefully]
1.      12 cm:8.6 cm (about 1.4)
  2.      8.8 cm:6.1 cm (about 1.4)
  3.      6.5 cm:4.5 cm (about 1.4)
  4.      41.6 cm:29.4 cm (about 1.4)
  5.       $90^\circ$  and  $90^\circ$
  6.       $85^\circ$  and  $85^\circ$
  7.       $102^\circ$  and  $102^\circ$
  8.       $105.6 \text{ cm}^2$ : $52.46 \text{ cm}^2$  (about 2)
  9.      The ratio of the lengths stays the same in an enlargement, the angle measures stay the same, the perimeters are in the same ratio as the enlargement, and the areas increase by (ratio)<sup>2</sup>.
  10.     The segment length in photo 1 should be about 7 cm.
  11.     The angle measure in photo 1 would be  $20^\circ$ .