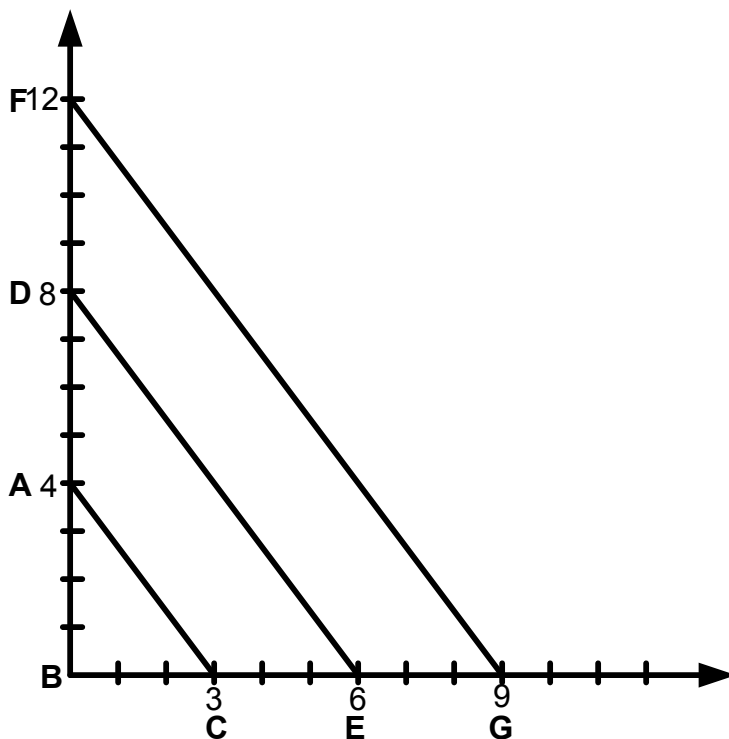


Sizing up Figures Summary

Similar Figures have the following characteristics:

- Corresponding sides are proportional.
- Corresponding angles are congruent.

1. Observe the graph of the 3 similar triangles below.



a. Record the ratios of the lengths of the bases and heights for each of the similar triangles in the tables below.

	$\triangle ABC$	$\triangle DBE$	$\triangle FBG$	Common Ratio
$\frac{\text{base}}{\text{height}}$				

	$\triangle ABC$	$\triangle DBE$	$\triangle FBG$	Common Ratio
$\frac{\text{height}}{\text{base}}$				

b. What do you notice about the ratios of $\frac{\text{base}}{\text{height}}$?

Sizing up Figures Summary

- c. What do you notice about the ratios of $\frac{\text{height}}{\text{base}}$?
- d. What is the relationship between the ratio of $\frac{\text{base}}{\text{height}}$ and $\frac{\text{height}}{\text{base}}$?
- e. What do you know about the lengths of the corresponding sides of these triangles?

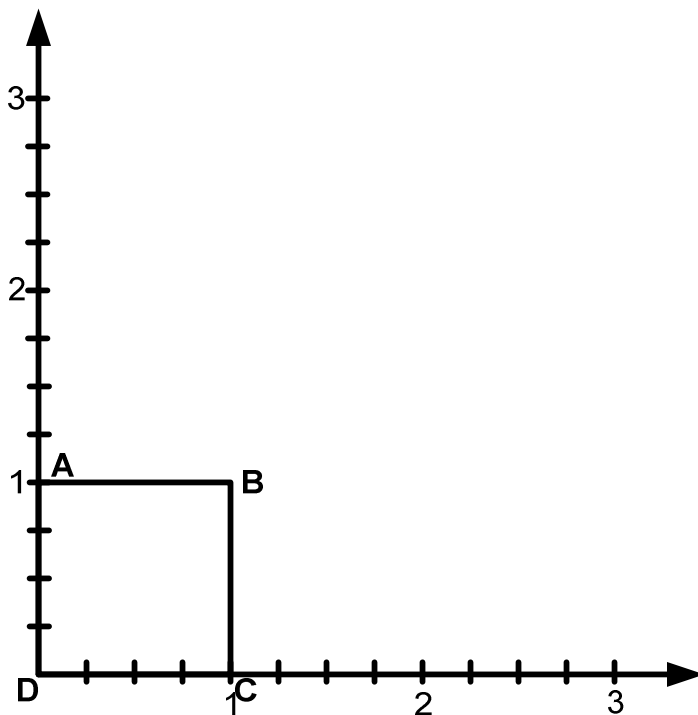
2. Measure the angle of each triangle and record the degree measure of each angle in the table below.

Measure of Corresponding Angles			
Δ	$m\angle CAB$	$m\angle ABC$	$m\angle BCA$
ΔABC			
Δ	$m\angle EDB$	$m\angle DBE$	$m\angle BED$
ΔDBE			
Δ	$m\angle GFB$	$m\angle FBG$	$m\angle BGF$
ΔFBG			

- a. What type of triangles are shown on the graph?
- b. What do you notice about the corresponding angles of each triangle?

Sizing up Figures Summary

Use the figure below for problems 3 through 6.



3. Use the original figure ABCD and a scale factor of $\frac{1}{2}$ to create an image of the original figure with the lower left vertex at the origin and the corresponding sides of the image on the x - and y -axis. Label the corresponding vertices of the image DEFG beginning at the origin and going clockwise.
4. Use the original figure ABCD and a scale factor of $1\frac{1}{2}$ to create an image of the original figure with the lower left vertex at the origin and the corresponding sides of the image on the x - and y -axis. Label the corresponding vertices of the image DHIJ beginning at the origin going and clockwise.

Sizing up Figures Summary

5. Measure the length from the origin to the vertex of each figure using centimeters.

Image : Original	Ratios of Corresponding Sides			
$\square DEFG : \square DABC$	$\frac{DE}{DA}$	$\frac{EF}{AB}$	$\frac{FG}{BC}$	$\frac{GD}{CD}$
$\square DHIJ : \square DABC$	$\frac{DH}{DA}$	$\frac{HI}{AB}$	$\frac{IJ}{BC}$	$\frac{JD}{CD}$

- What do you notice about the ratios of corresponding sides compared to the scale factors used to create each figure?
 - How does the scale factor affect the size of the original figure when creating the new image?
 - How can we determine mathematically if two figures are similar?
 - Are the figures similar? Why?
6. A **dilation** is a reduction or enlargement of a figure by a scale factor to produce a similar figure.
- On the figure at the top of page 3, draw a line from the origin through the upper right vertex of each square. What do you notice about these lines?