

1. Which letters when reflected across the y-axis would still look the same? Which can be reflected across the x-axis and remain the same?

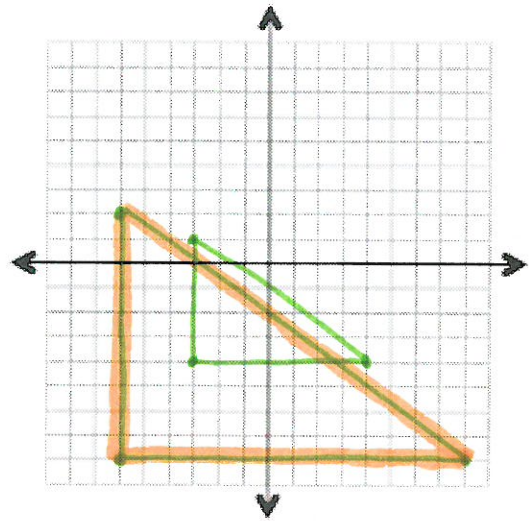
A B C D E F G
 H I J K L M N
 O P Q R S T U
 V W X Y Z

Y-axis ↓
 A, H, I, M, O
 T, U, V, W, X, Y

X-axis ↔
 B, C, D, E, H, I, K, O
 X

2. Complete the following.

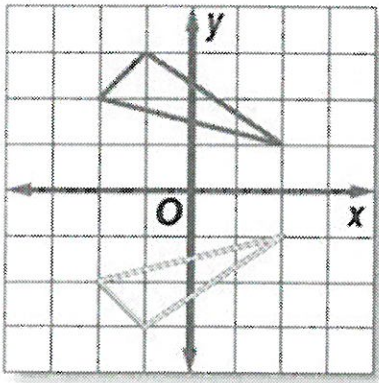
- a. Draw a right triangle with points at (-3, 1), (-3, -4), and (4, -4).
- b. Draw a **second triangle** but **dilated** by a **scale factor of 2**. (-6, 2), (-6, -8), (8, -8)
- c. Are the two figures similar or congruent? Explain completely.



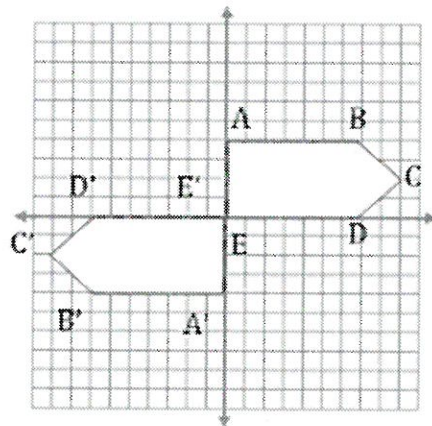
Similar - same shape, different sizes

3. Name the type of transformation that each picture shows. Be specific of how they move!!!

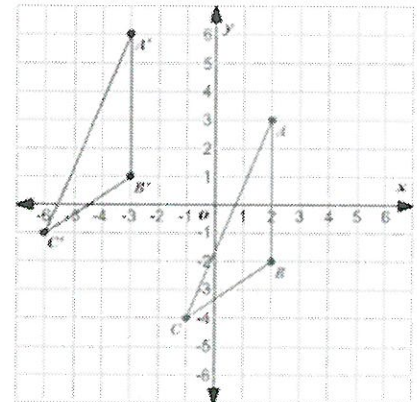
**new has marks*



reflection
 across x-axis



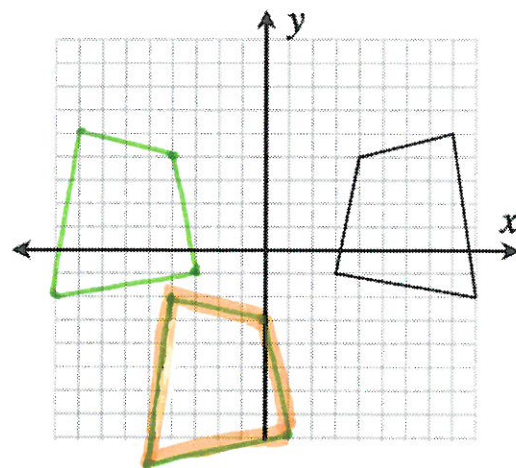
rotation 180°
 about the origin



translation
 left 5, up 3

4. Reflect the shape across the y-axis. Then translate it down seven units and right four units. What are the coordinates of the new shape?

$(-4, -2), (0, -3),$
 $(-5, 9), (1, -8)$



5. Desi is about to dilate the triangle by multiplying each coordinate. Explain to Desi what the ending shape will look like. Be clear and complete.

a) Explain to Desi what would happen to the figure if its coordinates are multiplied by $1/2$?

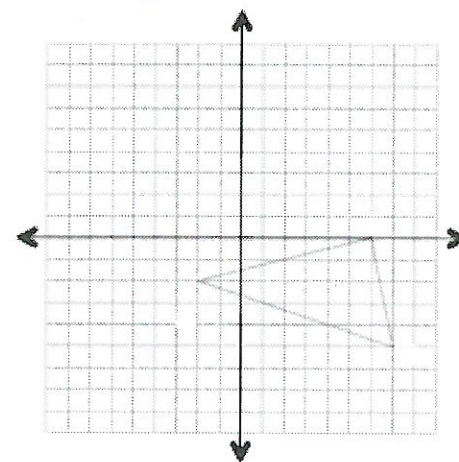
The new figure will be smaller. Each side will be $1/2$ the length of the original.

b) What would happen to the figure if its coordinates are multiplied by -1 ?

The figure will be rotated 180° or reflected across the x-axis and the y-axis. It will be the same size.

c) What would happen to the figure if its coordinates are multiplied by 3?

The new figure will be larger. Each side will be 3 times the length of the original.



6. Find the missing values for x and y. Be sure to show how you solved for them. Did you show your proportions and/or Ratios?

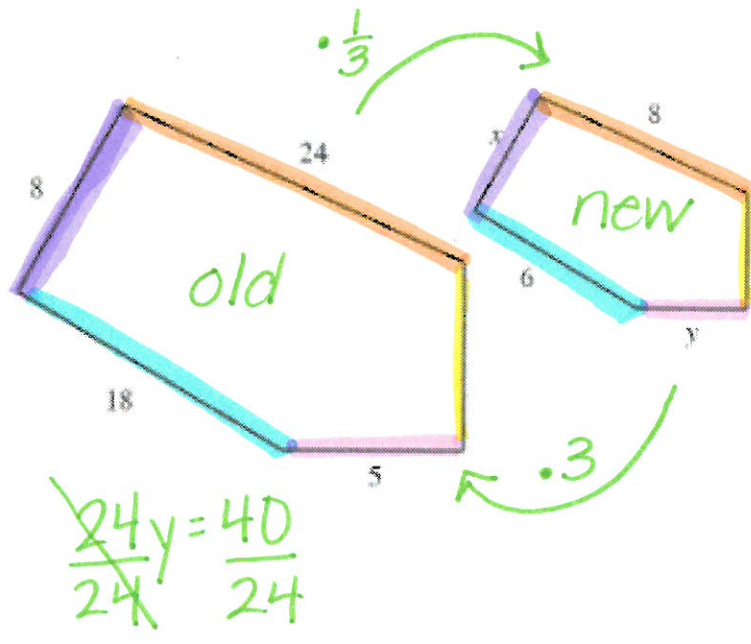
$$x = \frac{2\frac{2}{3}}{\text{or } 2.\bar{6}}$$

$$y = \frac{1\frac{2}{3}}{\text{or } 1.\bar{6}}$$

$$\frac{\text{old}}{\text{new}} = \frac{24}{8} = \frac{8}{x}$$

$$\frac{\text{old}}{\text{new}} = \frac{24}{8} = \frac{5}{y}$$

$$\frac{24x}{24} = \frac{64}{24}$$



$$\frac{24y}{24} = \frac{40}{24}$$