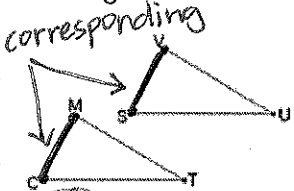


8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

The triangles shown are congruent. Which of the following two sides MUST be proportional?



- A) CM and SV
- B) CM and MT
- C) CT and VU
- D) CT and MT

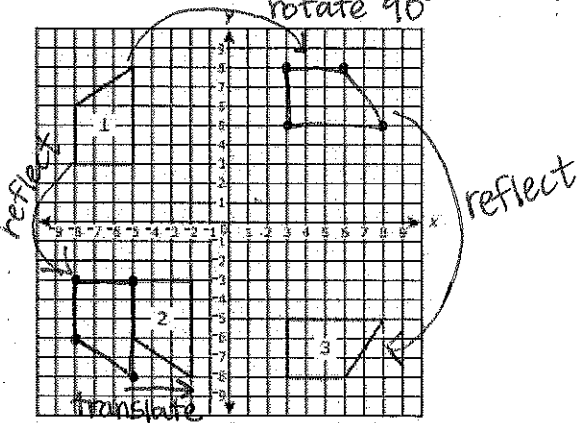
Triangle ABC undergoes a series of some of the following transformations to become triangle DEF: dilation, reflection, rotation, translation

would lead to similar, not congruent

Which statement is true?

- A) Triangle DEF is always congruent to triangle ABC.
- B) Triangle DEF is sometimes congruent to triangle ABC. *(when it doesn't include dilation).*
- C) Triangle DEF is never congruent to triangle ABC.
- D) There is not information to answer the question.

Which statement describes a possible sequence of transformations that take figure 1 to figure 2?

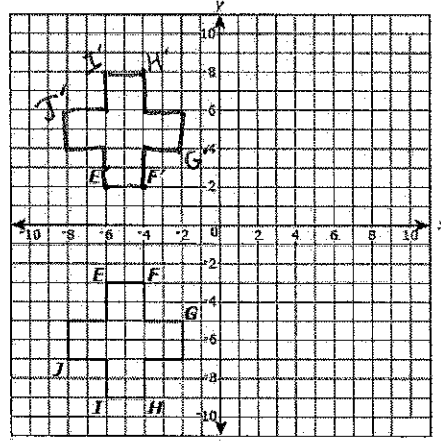


- A) a reflection across the x-axis, followed by a translation 2 units to the left
- B) a reflection across the x-axis followed by a translation 3 units to the right
- C) a rotation 180 degrees clockwise about the origin followed by a translation 2 units to the left
- D) a rotation 180 degrees clockwise about the origin followed by a translation 3 units to the right

(USE IMAGE TO THE LEFT)

Figure 3 can also be created by transforming figure 1 with a sequence of transformations. Which statement describes a possible sequence of transformations that take figure 1 to figure 3?

- A) a rotation 180 degrees clockwise about the origin followed by a translation 2 units to the left
- B) a rotation 90 degrees clockwise about the origin followed by a reflection across the x-axis
- C) a rotation 180 degrees clockwise about the origin followed by a reflection across the y-axis
- D) a rotation 90 degrees clockwise about the origin followed by a translation 3 units to the right



Mr. Novak draws a figure on a coordinate grid. He begins to construct a new figure congruent to the figure shown by points E' and F' as shown on the coordinate grid.

Part A: Mr. Novak used two different transformations to create the new figure. Based on the location of points E' and F', what would be the coordinates of G', H', I' and J'?

G'(-2, 4) H'(-4, 8) I'(-6, 8) J'(-8, 6)

Part B: Describe a sequence of transformations which would result in the new figure being congruent to the original figure based on point E' and F'.

*#1: reflect over x-axis
#2: translate vertically -1*

**Note: answers can vary here*