Susan has two boxes. Each is 12 cm high, 12 cm long, and 12 cm wide. Which statement describes Susan's boxes?

A) The boxes are congruent, but not similar.
B) The boxes are similar, but not congruent.
C) The boxes are similar and congruent.
D) The boxes are only similar.

In a coordinate plane, triangle ABC has vertices: A (1, 1), B (1, 5), and C (5, 1).

Triangle A'B'C' is then dilated by a scale factor of 2 with the origin at the center of dilation, resulting in triangle A'B'C'.

What is the length, in units, of segment A'B'?
A) 2   B) 4   C) 6   D) 8

A sequence of transformations is applied to a polygon. Select ALL statements which indicate a sequence of transformations where the resulting polygon has an area greater than the original polygon.

☐ Reflect over the x-axis, dilate about the origin by a scale factor of $\frac{1}{2}$, translate up 5 units.

☐ Rotate 90° counterclockwise around the origin, dilate about the origin by a scale factor of $\frac{3}{2}$.

☐ Dilate about the origin by a scale factor of $\frac{2}{3}$, rotate 180° clockwise around the origin, translate down 2 units.

☐ Dilate about the origin by a scale factor of 2, reflect over the y-axis, dilate about the origin by a scale factor of $\frac{2}{3}$.
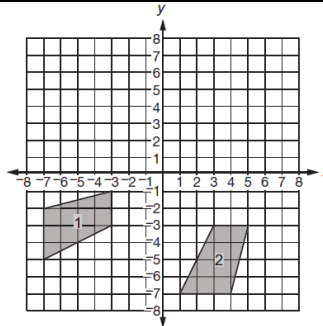
Which sequence describes the transformation of figure 1 to figure 2?

A. Reflect it over the line y=-3, then rotate it 90° CCW about the origin.

B. Reflect it over the x-axis, then rotate it 180°about the origin

C. Rotate it 90°CCW about point (-3,-3) , then reflect it over the y axis
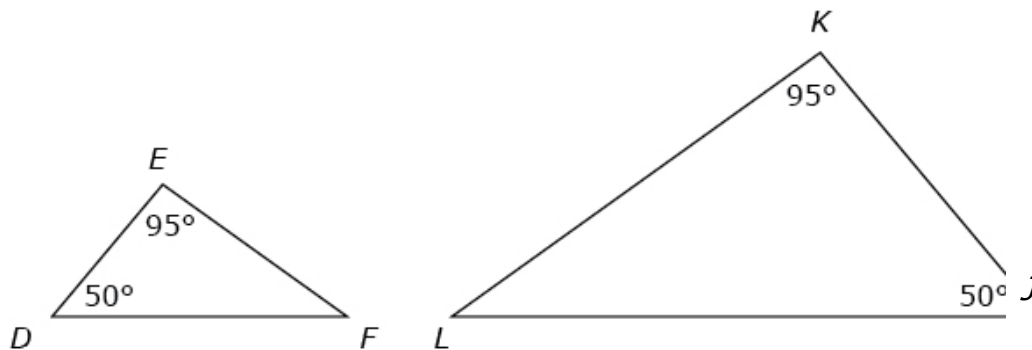
Part A: What information is provided to show triangle DEF is similar to triangle JKL?

Part B: What series of transformations could be used to obtain triangle JKL from DEF?

Rectangle R undergoes a dilation with a scale factor of 0.5 and then a reflection over the y-axis. The resulting image is rectangle S. Which statement about rectangles R and S is true?

(A.) They are congruent and similar.
(B.) They are similar but not congruent.
(C.) They are congruent but not similar.
(D.) They are neither congruent nor similar.

Roger has a 3-inch by 5-inch photograph. He is a good painter and wants to make a painting that looks exactly like the photograph but larger. Which one of the following canvases should he buy for this painting?

(A.) 15 inches by 45 inches
(B.) 18 inches by 20 inches
(C.) 24 inches by 40 inches
(D.) 30 inches by 75 inches

Which rigid and non-rigid motions could be performed on kite ABCD to produce kite EFGH?
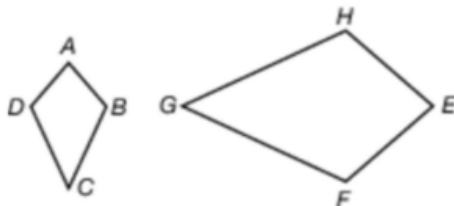
A. Rotate 90°, then dilate with a scale factor of 2.

B. Rotate 90°, then dilate with a scale factor of 1/2.

C. Translate to the left, then dilate with a scale factor of 2.

D. Translate to the right, then dilate with a scale factor of 1/2.

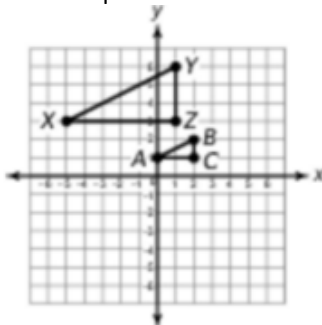Square FGHJ was dilated to form square F'G'H'J'. The center of dilation was at the origin.
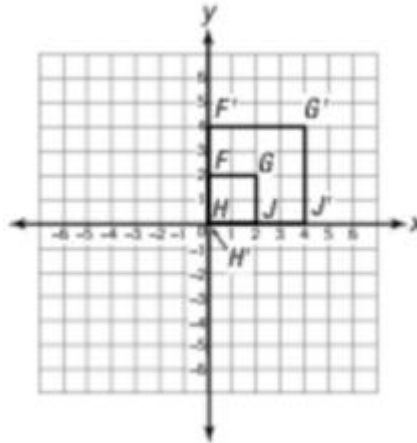
What scale factor was used?

A. $\frac{1}{2}$

B. $\frac{1}{4}$

C. 2

D. 4

Which sequence of transformations can be used to show that ΔABC is similar to ΔXYZ?

A. dilation of ΔABC by a factor of 2 followed by a translation 5 units to the right

B. dilation of ΔABC by a factor of 3 followed by a translation 5 units to the left