8.G.4 UNDERSTAND THAT A TWO-DIMENSIONAL FIGURE IS SIMILAR 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.

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.

sf = 1

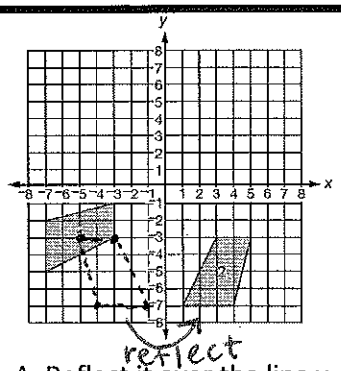
In a coordinate plane, triangle ABC has vertices: A (1, 1), B (1, 5), and C (5, 1).

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'. 4(2) = 8

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

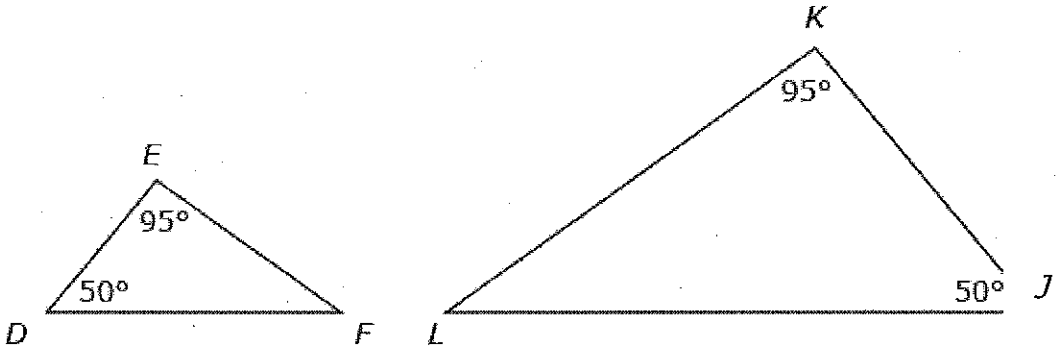
A sequence of transformations is applied to a polygon. Select ALL statements which indicate a sequence of transformations where the resulting polygon has an area greater than the original polygon. sf > 1

- ☐ Reflect over the x-axis, dilate about the origin by a scale factor of $\frac{1}{2}$, translate up 5 units. sf = $\frac{1}{2}$ < 1
- ☑ Rotate 90° counterclockwise around the origin, dilate about the origin by a scale factor of $\frac{3}{2}$. $\frac{3}{2}$ > 1
- ☐ Dilate about the origin by a scale factor of $\frac{2}{3}$, rotate 180° clockwise around the origin, translate down 2 units. $\frac{2}{3}$ < 1
- ☑ Dilate about the origin by a scale factor of 2, reflect over the y-axis, dilate about the origin by a scale factor of $\frac{2}{3}$. $2 \cdot \frac{2}{3} = \frac{4}{3}$ $\frac{4}{3}$ > 1



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, the rotate it 180°about the origin
C. Rotate it 90°CCW about point (-3,-3) , then reflect it over the y axis
D. Translate it 8 units to the right, then reflect it over the line y = -3



Part A: What information is provided to show triangle DEF is similar to triangle JKL?

$m\angle D = m\angle J = 50°$
$m\angle E = m\angle K = 95°$

If two corresponding angle pairs are congruent, then the figures are similar.

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

Reflection & Dilation (with a sf > 1).