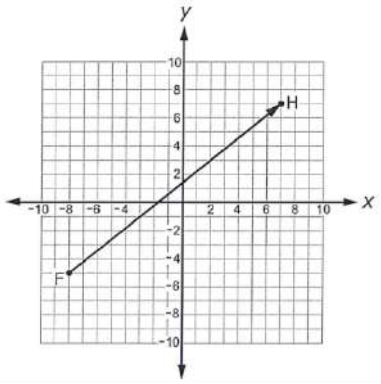
Geometry	
2012-2013	**2014-2015**
GLE 16 Represent and solve problems involving distance on a number line or in the plane	**G.GPE.B.06** Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point.
A map of the United States is placed on a coordinate grid. The coordinates of Chicago are (12, 9), and the coordinates of Memphis are (10, 3). To the nearest unit, how far apart are the two cities? A. 6 units B. 8 units C. 9 units D. 15 units	Use the graph to answer the question.  Point G is drawn on the line segment so that the ratio of FG to GH is 5 to 1. What are the coordinates of point G? A. (4, 4.6) B. (4.5, 5) C. (-5.5, -3) D. (-5, -2.6)
GLE 18 Determine angle measures and side lengths of right and similar triangles using trigonometric ratios and properties of similarity, including congruence	**G.SRT.C.06** Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

Gene makes animal shapes by folding square pieces of paper. He folds along the diagonal of a square that measures 20 inches on each side. The result of his fold is two 45-45-90 right triangles. Which measurement is closest to the length of the diagonal?

A. 14 inches
B. 20 inches
C. 28 inches
D. 34 inches

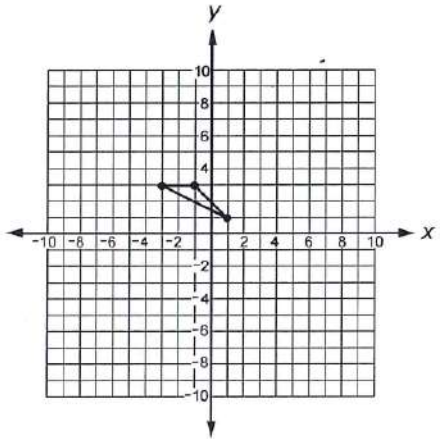
Kendall drew a right triangle. The tangent value for one angle in her triangle is 1.8750. Which set of side lengths could belong to a right triangle similar to the triangle Kendall drew?

A. 6 cm, 8 cm, 10 cm
B. 8 cm, 15 cm, 17 cm
C. 8 cm, 12.7 cm, 15 cm
D. 1.875 cm, 8 cm, 8.2 cm

GLE 15 Draw or use other methods, including technology, to illustrate dilations of geometric figures

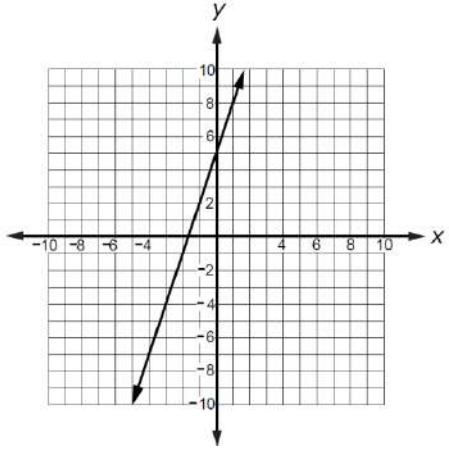
G.SRT.A.01a Verify experimentally the properties of dilations given by a center and a scale factor. (a) A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.

Use the triangle on the grid to answer the question.



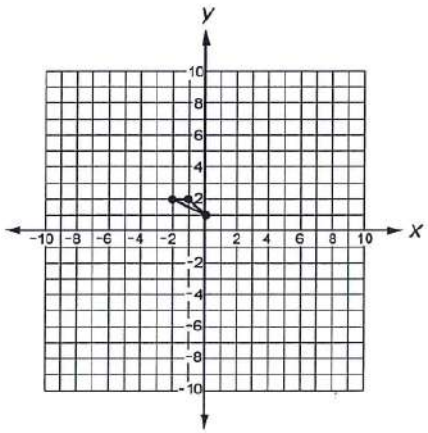
Darryl dilates the triangle by a factor of 2. Which triangle shows the result of this dilation?

Rosa graphs the line $y = 3x + 5$. Then she dilates the line by a factor of $\frac{1}{5}$ with (0, 7) as the center of dilation.

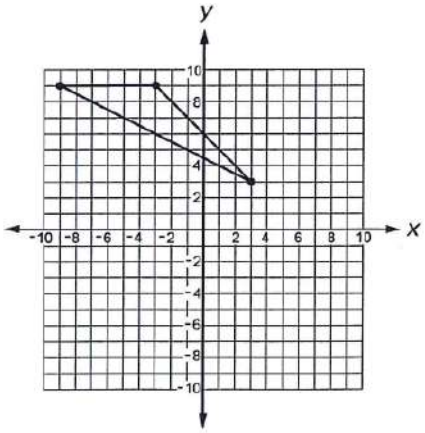


Which statement best describes the result of the dilation?

A.

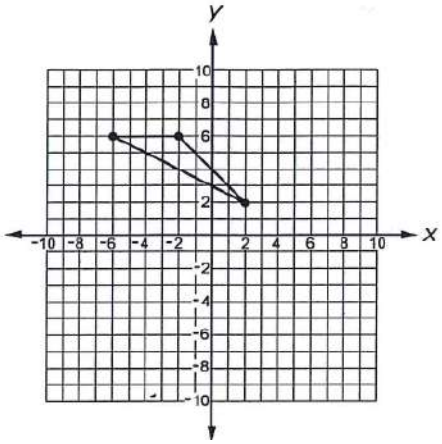


B.

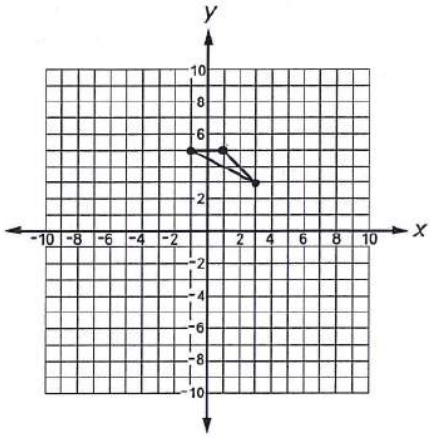


C.

A. The result is a different line $\frac{1}{5}$ the size of the original line.
B. The result is a different line with a slope of 3.
C. The result is a different line with a slope of $-\frac{1}{3}$.
D. The result is the same line.



D.



GLE 9 Construct 2- and 3- dimensional figures when given the name, description, or attributes, with and without technology	**G.MG.A.01** Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).

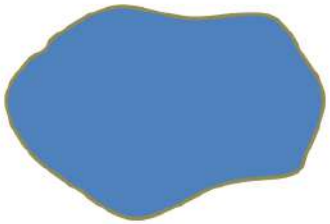
The ground floor and roof of a building are both squares. The four walls of the building are also squares. Which shape describes this building?

A. a cube
B. a tetrahedron
C. a square pyramid
D. a triangular prism

Use the diagrams to answer the question.

Diagram 1: Side view of City Park Pond

Diagram 2: Top view of City Park Pond



The maintenance staff at City Park wants to estimate the density of fish per cubic yard in the pond. Which process should the maintenance staff use to calculate the **best** estimate?

A. Divide the estimated number of fish in the pond by the estimated volume of the pond using the formula for volume of a cylinder.
B. Divide the estimated number of fish in the pond by the estimated volume of the pond using the formula for volume of a hemisphere.
C. Divide the estimated volume of the pond using the formula for volume of a cylinder by the estimated number of fish in the pond.
D. Divide the estimated volume of the pond using the formula for volume of a hemisphere by the estimated number of fish in the pond.