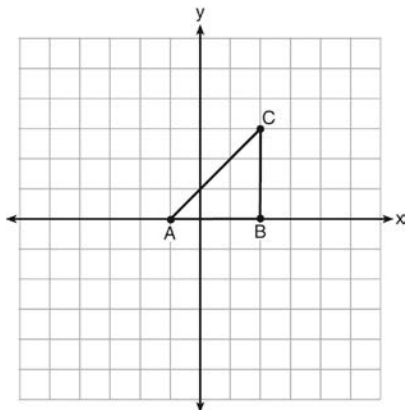


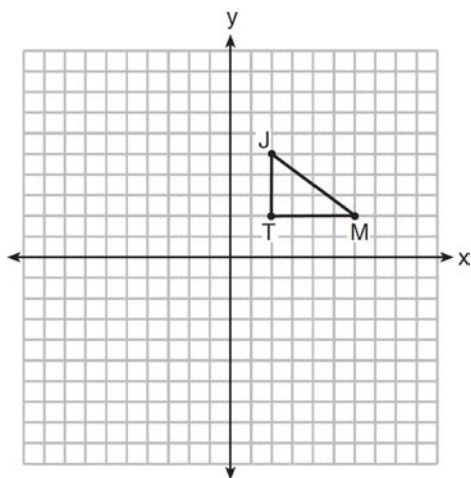
G.G.59: Properties of Transformations: Investigate, justify, and apply the properties that remain invariant under similarities

- 1 Triangle ABC is graphed on the set of axes below.



Which transformation produces an image that is similar to, but *not* congruent to, $\triangle ABC$?

- 1) $T_{2,3}$
 - 2) D_2
 - 3) $r_{y=x}$
 - 4) R_{90}
- 2 Triangle JTM is shown on the graph below.



Which transformation would result in an image that is *not* congruent to $\triangle JTM$?

- 1) $r_{y=x}$
- 2) R_{90}
- 3) $T_{0,-3}$
- 4) D_2

- 3 If $\triangle ABC$ and its image, $\triangle A'B'C'$, are graphed on a set of axes, $\triangle ABC \cong \triangle A'B'C'$ under each transformation *except*

- 1) D_2
- 2) R_{90}
- 3) $r_{y=x}$
- 4) $T_{(-2,3)}$

- 4 When a dilation is performed on a hexagon, which property of the hexagon will *not* be preserved in its image?

- 1) parallelism
- 2) orientation
- 3) length of sides
- 4) measure of angles

- 5 Triangle $A'B'C'$ is the image of $\triangle ABC$ under a dilation such that $A'B' = 3AB$. Triangles ABC and $A'B'C'$ are

- 1) congruent but not similar
- 2) similar but not congruent
- 3) both congruent and similar
- 4) neither congruent nor similar

- 6 The coordinates of $\triangle ABC$ are $A(1,1)$, $B(2,3)$, and $C(3,1)$. If $\triangle A'B'C'$ is the result of the transformation $D_2 \circ r_{y\text{-axis}}$, then $\triangle A'B'C'$ is

- 1) similar to $\triangle ABC$
- 2) congruent to $\triangle ABC$
- 3) a right triangle
- 4) an equilateral triangle

- 7 When $\triangle ABC$ is dilated by a scale factor of 2, its image is $\triangle A'B'C'$. Which statement is true?

- 1) $\overline{AC} \cong \overline{A'C'}$
- 2) $\angle A \cong \angle A'$
- 3) perimeter of $\triangle ABC$ = perimeter of $\triangle A'B'C'$
- 4) $2(\text{area of } \triangle ABC) = \text{area of } \triangle A'B'C'$

- 8 In $\triangle KLM$, $m\angle K = 36$ and $KM = 5$. The transformation D_2 is performed on $\triangle KLM$ to form $\triangle K'L'M'$. Find $m\angle K'$. Justify your answer.
Find the length of $\overline{K'M'}$. Justify your answer.

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1 ANS: 2 REF: 061201ge

2 ANS: 4 REF: 081506ge

3 ANS: 1 REF: 011405ge

4 ANS: 3 REF: 081204ge

5 ANS: 2 REF: 010302a

6 ANS: 1 REF: 011002b

7 ANS: 2 REF: 061126ge

8 ANS:

36, because a dilation does not affect angle measure. 10, because a dilation does affect distance.

REF: 011035ge