

G.CO.A.2: Identifying Transformations 1

- 1 One function of a movie projector is to enlarge the image on the film. This procedure is an example of a
 - 1) line of symmetry
 - 2) line reflection
 - 3) translation
 - 4) dilation

- 2 Which transformation can map the letter **S** onto itself?
 - 1) glide reflection
 - 2) translation
 - 3) line reflection
 - 4) rotation

- 3 Which transformation is *not* always an isometry?
 - 1) rotation
 - 2) dilation
 - 3) reflection
 - 4) translation

- 4 Which transformation produces a figure that is always the mirror image of the original figure?
 - 1) line reflection
 - 2) dilation
 - 3) translation
 - 4) rotation

- 5 After which transformation of $\triangle ABC$ could the image $\triangle A'B'C'$ *not* have the same area?
 - 1) translation
 - 2) rotation
 - 3) point reflection
 - 4) dilation

- 6 A transformation of a polygon that always preserves both length and orientation is
 - 1) dilation
 - 2) translation
 - 3) line reflection
 - 4) glide reflection

- 7 Which transformation does *not* preserve orientation?
 - 1) translation
 - 2) dilation
 - 3) reflection in the y -axis
 - 4) rotation

- 8 Which transformation is an opposite isometry?
 - 1) dilation
 - 2) line reflection
 - 3) rotation of 90°
 - 4) translation

- 9 Which transformation would *not* always produce an image that would be congruent to the original figure?
 - 1) translation
 - 2) dilation
 - 3) rotation
 - 4) reflection

- 10 If $\triangle A'B'C'$ is the image of $\triangle ABC$, under which transformation will the triangles *not* be congruent?
 - 1) reflection over the x -axis
 - 2) translation to the left 5 and down 4
 - 3) dilation centered at the origin with scale factor 2
 - 4) rotation of 270° counterclockwise about the origin

- 11 Under which transformation would $\triangle A'B'C'$, the image of $\triangle ABC$, *not* be congruent to $\triangle ABC$?
- 1) reflection over the y -axis
 - 2) rotation of 90° clockwise about the origin
 - 3) translation of 3 units right and 2 units down
 - 4) dilation with a scale factor of 2 centered at the origin
- 12 The vertices of $\triangle JKL$ have coordinates $J(5,1)$, $K(-2,-3)$, and $L(-4,1)$. Under which transformation is the image $\triangle J'K'L'$ *not* congruent to $\triangle JKL$?
- 1) a translation of two units to the right and two units down
 - 2) a counterclockwise rotation of 180 degrees around the origin
 - 3) a reflection over the x -axis
 - 4) a dilation with a scale factor of 2 and centered at the origin
- 13 The image of $\triangle DEF$ is $\triangle D'E'F'$. Under which transformation will the triangles *not* be congruent?
- 1) a reflection through the origin
 - 2) a reflection over the line $y = x$
 - 3) a dilation with a scale factor of 1 centered at $(2,3)$
 - 4) a dilation with a scale factor of $\frac{3}{2}$ centered at the origin
- 14 Which transformation is *not* an isometry?
- 1) $r_{y=x}$
 - 2) $R_{0,90^\circ}$
 - 3) $T_{3,6}$
 - 4) D_2
- 15 Which transformation produces a figure similar but not congruent to the original figure?
- 1) $T_{1,3}$
 - 2) $D_{\frac{1}{2}}$
 - 3) R_{90°
 - 4) $r_{y=x}$
- 16 Point P' is the image of point $P(-3,4)$ after a translation defined by $T_{(7,-1)}$. Which other transformation on P would also produce P' ?
- 1) $r_{y=-x}$
 - 2) $r_{y\text{-axis}}$
 - 3) R_{90°
 - 4) R_{-90°
- 17 Which transformation is a direct isometry?
- 1) D_2
 - 2) D_{-2}
 - 3) $r_{y\text{-axis}}$
 - 4) $T_{2,5}$

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Answer Section

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|----|--------|-----------------|
| 1 | ANS: 4 | REF: 060603a |
| 2 | ANS: 4 | REF: 061015ge |
| 3 | ANS: 2 | REF: 011006ge |
| 4 | ANS: 1 | REF: 010809a |
| 5 | ANS: 4 | REF: 089618siii |
| 6 | ANS: 2 | REF: 081015ge |
| 7 | ANS: 3 | REF: 060218b |
| 8 | ANS: 2 | REF: 060313b |
| 9 | ANS: 2 | REF: 081602geo |
| 10 | ANS: 3 | REF: 081502geo |
| 11 | ANS: 4 | REF: 011706geo |
| 12 | ANS: 4 | REF: 061502geo |
| 13 | ANS: 4 | REF: 081702geo |
| 14 | ANS: 4 | REF: 010210b |
| 15 | ANS: 2 | |

A dilation affects distance, not angle measure.

REF: 080906ge

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| 16 | ANS: 4 | REF: 060217b |
| 17 | ANS: 4 | REF: 080105b |