

G.G.54: Reflections 1: Define, investigate, justify, and apply isometries in the plane (rotations, reflections, translations, glide reflections)

- 1 Point A is located at $(4, -7)$. The point is reflected in the x -axis. Its image is located at
 - 1) $(-4, 7)$
 - 2) $(-4, -7)$
 - 3) $(4, 7)$
 - 4) $(7, -4)$
- 2 When the point $(2, -5)$ is reflected in the x -axis, what are the coordinates of its image?
 - 1) $(-5, 2)$
 - 2) $(-2, 5)$
 - 3) $(2, 5)$
 - 4) $(5, 2)$
- 3 What is the image of point $(-3, 7)$ after a reflection in the x -axis?
 - 1) $(3, 7)$
 - 2) $(-3, -7)$
 - 3) $(3, -7)$
 - 4) $(7, -3)$
- 4 What are the coordinates of point $(2, -3)$ after it is reflected over the x -axis?
 - 1) $(2, 3)$
 - 2) $(-2, 3)$
 - 3) $(-2, -3)$
 - 4) $(-3, 2)$
- 5 Point $(-2, 3)$ is reflected in the x -axis. In which quadrant does its image lie?
 - 1) I
 - 2) II
 - 3) III
 - 4) IV
- 6 Reflecting $(5, 1)$ in the y -axis yields an image of
 - 1) $(5, -1)$
 - 2) $(-5, -1)$
 - 3) $(5, 1)$
 - 4) $(-5, 1)$
- 7 The image of point $(3, 4)$ when reflected in the y -axis is
 - 1) $(-3, -4)$
 - 2) $(-3, 4)$
 - 3) $(3, -4)$
 - 4) $(4, 3)$
- 8 What is the image of the point $(2, -3)$ after the transformation $r_{y\text{-axis}}$?
 - 1) $(2, 3)$
 - 2) $(-2, -3)$
 - 3) $(-2, 3)$
 - 4) $(-3, 2)$
- 9 What are the coordinates of point P , the image of point $(3, -4)$ after a reflection in the line $y = x$?
 - 1) $(3, 4)$
 - 2) $(-3, 4)$
 - 3) $(4, -3)$
 - 4) $(-4, 3)$
- 10 What is the image of $(5, -2)$ under the transformation $r_{y=x}$?
 - 1) $(-5, 2)$
 - 2) $(5, 2)$
 - 3) $(2, 5)$
 - 4) $(-2, 5)$

- 11 If the point $(2, -5)$ is reflected in the line $y = x$, then the image is?
 - 1) $(5, -2)$
 - 2) $(-2, 5)$
 - 3) $(-5, 2)$
 - 4) $(-5, -2)$
- 12 The coordinates of point A are $(-3a, 4b)$. If point A' is the image of point A reflected over the line $y = x$, the coordinates of A' are
 - 1) $(4b, -3a)$
 - 2) $(3a, 4b)$
 - 3) $(-3a, -4b)$
 - 4) $(-4b, -3a)$
- 13 A function, f , is defined by the set $\{(2, 3), (4, 7), (-1, 5)\}$. If f is reflected in the line $y = x$, which point will be in the reflection?
 - 1) $(5, -1)$
 - 2) $(-5, 1)$
 - 3) $(1, -5)$
 - 4) $(-1, 5)$
- 14 What is the image of point $(-3, -1)$ under a reflection in the origin?
 - 1) $(3, 1)$
 - 2) $(-3, 1)$
 - 3) $(1, 3)$
 - 4) $(-1, -3)$
- 15 The point $(-3, -2)$ is reflected in the origin. The coordinates of its image are
 - 1) $(-2, -3)$
 - 2) $(3, 2)$
 - 3) $(2, 3)$
 - 4) $(-3, 2)$
- 16 If $M(-2, 8)$ is reflected in the y -axis, what are the coordinates of M' , the image of M ?
- 17 Find the image of $(1, 5)$ when it is reflected over the line $y = x$.
- 18 Find the image of $P(2, -5)$ under the transformation $r_{y=x}$.
- 19 Find the image of $P(4, -2)$ under the transformation $r_{y=x}$.
- 20 Find the coordinates of the image of point $(5, 2)$ after a reflection in the line $y = x$.

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Answer Section

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|----|---------------|------------------|
| 1 | ANS: 3 | REF: 060905ge |
| 2 | ANS: 3 | REF: 010007a |
| 3 | ANS: 2 | REF: 010918a |
| 4 | ANS: 1 | REF: 080713a |
| 5 | ANS: 3 | REF: 060825a |
| 6 | ANS: 4 | REF: 019017siii |
| 7 | ANS: 2 | REF: spring9803a |
| 8 | ANS: 2 | REF: 081108ge |
| 9 | ANS: 4 | REF: 060306b |
| 10 | ANS: 4 | REF: 069628siii |
| 11 | ANS: 3 | REF: 069735siii |
| 12 | ANS: 1 | REF: 081113ge |
| 13 | ANS: 1 | REF: 060710b |
| 14 | ANS: 1 | REF: 080418a |
| 15 | ANS: 2 | REF: 068824siii |
| 16 | ANS:
(2,8) | |

REF: 089003siii

- 17 ANS:
(5,1)

REF: 068005siii

- 18 ANS:
(-5,2)

REF: 010405siii

- 19 ANS:
(-2,4)

REF: 089709siii

- 20 ANS:
(2,5)

REF: 010306siii