

**G.CO.A.5: Rotations 1**

- 1 What are the coordinates of  $A'$ , the image of  $A(-3,4)$ , after a rotation of  $180^\circ$  about the origin?
  - 1)  $(4,-3)$
  - 2)  $(-4,-3)$
  - 3)  $(3,4)$
  - 4)  $(3,-4)$
  
- 2 If point  $(5,2)$  is rotated counterclockwise  $90^\circ$  about the origin, its image will be point
  - 1)  $(2,5)$
  - 2)  $(2,-5)$
  - 3)  $(-2,5)$
  - 4)  $(-5,-2)$
  
- 3 What are the coordinates of  $M'$ , the image of  $M(2,4)$ , after a counterclockwise rotation of  $90^\circ$  about the origin?
  - 1)  $(-2,4)$
  - 2)  $(-2,-4)$
  - 3)  $(-4,2)$
  - 4)  $(-4,-2)$
  
- 4 What is the image of point  $(8,-4)$  under the rotation  $R_{90^\circ}$  about the origin?
  - 1)  $(8,4)$
  - 2)  $(4,8)$
  - 3)  $(-4,8)$
  - 4)  $(-4,-8)$
  
- 5 The transformation  $R_{90^\circ}$  maps point  $(5,3)$  onto the point whose coordinates are
  - 1)  $(5,-3)$
  - 2)  $(3,-5)$
  - 3)  $(3,5)$
  - 4)  $(-3,5)$
  
- 6 What is the image of  $A(5,2)$  under  $R_{90^\circ}$ ?
  - 1)  $(-5,2)$
  - 2)  $(5,-2)$
  - 3)  $(2,5)$
  - 4)  $(-2,5)$
  
- 7 The coordinates of point  $P$  are  $(7,1)$ . What are the coordinates of the image of  $P$  after  $R_{90^\circ}$  about the origin?
  - 1)  $(1,7)$
  - 2)  $(-7,-1)$
  - 3)  $(1,-7)$
  - 4)  $(-1,7)$
  
- 8 What are the coordinates of the image of  $P(-2,5)$  after a clockwise rotation of  $90^\circ$  about the origin?
  - 1)  $(-5,-2)$
  - 2)  $(-2,-5)$
  - 3)  $(2,5)$
  - 4)  $(5,2)$

- 9 What are the coordinates of the image of  $(2, -5)$  after a counterclockwise rotation of  $90^\circ$  about the origin?
- 1)  $(-2, 5)$
  - 2)  $(2, 5)$
  - 3)  $(-5, -2)$
  - 4)  $(5, 2)$
- 10 What is the image of the point  $(-3, -6)$  on rotation of  $90^\circ$  about the origin?
- 11 What is the image of the point  $(2, -3)$  under a clockwise rotation of  $90^\circ$  ( $R_{-90^\circ}$ ) about the origin?
- 12 The point  $(-2, 1)$  is rotated  $180^\circ$  about the origin in a clockwise direction. What are the coordinates of its image?
- 13 What is the image of  $R_{90^\circ}(1, 2)$ ?
- 14 Write the coordinates of  $P'$ , the image of  $P(5, -1)$  after a clockwise rotation of  $180^\circ$  about the origin.
- 15 What is the image of  $(5, 1)$  under a counterclockwise rotation of  $90^\circ$ ?
- 16 The point  $(-3, 4)$  is rotated  $180^\circ$  about the origin in a counterclockwise direction. What are the coordinates of its image?
- 17 What is the image of  $(6, 5)$  under a counterclockwise rotation of  $180^\circ$ ?
- 18 Point  $A$  is rotated  $180^\circ$  in a counterclockwise direction about the origin. If the coordinates of  $A$  are  $(-1, 3)$ , what are the coordinates of  $A'$ , its image?
- 19 If point  $P(3, -2)$  is rotated  $90^\circ$  about the origin, what is the image of  $P$ ?
- 20 The coordinates of the endpoints of  $\overline{BC}$  are  $B(5, 1)$  and  $C(-3, -2)$ . Under the transformation  $R_{90^\circ}$ , the image of  $\overline{BC}$  is  $\overline{B'C'}$ . State the coordinates of points  $B'$  and  $C'$ .

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**Answer Section**

- 1 ANS: 4  
 $(x,y) \rightarrow (-x,-y)$
- REF: 061304ge
- 2 ANS: 3 REF: 060809b
- 3 ANS: 3 REF: 088534siii
- 4 ANS: 2 REF: 010435siii
- 5 ANS: 4 REF: 089421siii
- 6 ANS: 4 REF: 019727siii
- 7 ANS: 4 REF: 011421ge
- 8 ANS: 4 REF: 019934siii
- 9 ANS: 4 REF: 080328siii
- 10 ANS:  
 $(6,-3)$
- REF: 068016siii
- 11 ANS:  
 $(-3,-2)$
- REF: 068109siii
- 12 ANS:  
 $(2,-1)$
- REF: 068703siii
- 13 ANS:  
 $(-2,1)$
- REF: 089308siii
- 14 ANS:  
 $(-5,1)$
- REF: 018905siii
- 15 ANS:  
 $(-1,5)$
- REF: 068910siii
- 16 ANS:  
 $(3,-4)$
- REF: 069605siii
- 17 ANS:  
 $(-6,-5)$
- REF: 089812siii

18 ANS:  
(1,-3)

REF: 089908siii

19 ANS:  
(2,3)

REF: 080109siii

20 ANS:  
 $(x,y) \rightarrow (-y,x)$   
 $B(5,1) \rightarrow B'(-1,5)$   
 $C(-3,-2) \rightarrow C'(2,-3)$

REF: 061429ge