**Chapter 9 Test Review**

***Write the letter for the correct answer in the blank at the right of each question.***

 **1.** Given *A*(3, –7), under which reflection is *A*′(3, 7)?

 **A** reflection in the *x*-axis **C** reflection in the origin

 **B** reflection in the *y*-axis **D** reflection in the line *y* = 5



 **2.** Name the image of $\overbar{BC}$under reflection in line *m.*

 **F** $\overbar{BC}$**H** $\overbar{AC}$

**G** $\overbar{BA}$**J** line *ℓ*

**3.** How many lines of symmetry does a square have?

 **A** 0 **B** 2 **C** 4 **D** 8

**4.** What is the image of *X*(3, 5) along the translation vector 〈–4, 6〉?

 **F** *X*′(7, –1) **H** *X*′(7, 11)

 **G** *X*′(–1, –1) **J** *X*′(–1, 11)

**5.** Point *K*(–2, 1) is rotated 90° about the origin. What are the coordinates of *K*′?

 **F** *K*′(–2, 1) **G** *K*′(2, –1) **H** *K*′(–1, 2) **J** *K*′(–1, –2)

**6.** △*ABC* has vertices *A*(–2, 1), *B*(–4, –1), and *C’*(0, –1) and is reflected in the line *y* = x.
What is the coordinate of *C*?

 **A** *C*′(1, 0) **B** *C*′(0, 1) **C** *C*’(-1, 0) **D** *C*’(0, –1)

**7.** The point *Y* with coordinates (–8, 6) is rotated about the origin to *Y'*(8, –6).
How many degrees was the point rotated?

 **F** 90 **G** 180 **H** 270 **J** 360

**8.** Find the image of *A*(3, 7) under a translation along the vector 〈–4, 2〉.

 **A** *A*′(–7, –5) **B** *A*′(–1, 9) **C** *A*′(7, 5) **D** *A*′(1, –9)

**9.** Find the magnitude of the rotational symmetry in a regular pentagon.

 **F** 72° **G** 36° **H** 30° **J** 5°

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**2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10.** Given *B*(–4, –6), under which reflection is *B*′(4, –6)?

 **A** reflected in the *x*-axis **C** reflected in the line *y* = –2

 **B** reflected in the *y*-axis **D** reflected in the line *y* = *x*

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 **11.** Name the image of $\overbar{EF}$under reflection in line *ℓ*.

 **F** $\overbar{GF}$**H** $\overbar{EH}$

**G** $\overbar{HG}$**J** $\overbar{FE}$

 **12.** How many lines of symmetry does a regular hexagon have?

 **A** 3 **B** 4 **C** 5 **D** 6

** 13.** Find the magnitude of the rotation of the figure at the right.

 **F** 90 **H** 60

 **G** 74 **J** 45

 **14.** What is the image of *Y*(–4, 7) under the translation 〈3, –5〉?

 **A** *Y*′(–1, 2) **B** *Y*′(–1, 12) **C** *Y*′(–7, 2) **D** *Y*′(–7, 12)

 **15.** The point *I*(–4, –1) is rotated 90° about the origin. What is the image of *I*?

 **F** *I*′(4, –1) **H** *I*′(1, –4)

 **G** *I*′(4, 1) **J** *I*′(–1, –4)

**16.** The line segment $\overbar{CD}$with endpoints *C*(5, –7) and *D*(–3, 9) is rotated 270° about the origin. What is the coordinate of *D'*?

 **A** *D'*(–3, –9) **B** *D'*(3, –9) **C** *D'*(9, –3) **D** *D'*(9, 3)

**17.** Find the image of *P*(–2, 4) under a translation along the vector 〈6, 5〉.

 **F** *P*′ (4, 9) **G** *P*′ (–4, –9) **H** *P*′ (–8, –1) **J** *P*′ (8, 1)

**18.** *HIJK* is a trapezoid with *H*(5, 4), *I*(10, –2), *J*(–8, –2), and *K*(–3, 4). Find the coordinates of the image of *H* under the translation vector 〈10, -11〉.

 **A** *H'*(20, –13) **B** *H'*(15, –7) **C** *H'*(–5, 15) **D** *H'*(7, –7)

**19.** Find the reflection of the point *A*(6, –1) in the *x*-axis.

 **F** *A'*(6, –1) **G** *A'*(–6, 1) **H** *A'*(6, 1) **J** *A'*(–1, 6)

**10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **11.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **12.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **13.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **14.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **15.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **16.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **17.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **18.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**19.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**