

10-1 Standardized Test Prep

Exploring Conic Sections

Multiple Choice

For Exercises 1–6, choose the correct letter.

1. What shape is the conic section $x^2 + y^2 = 16$?

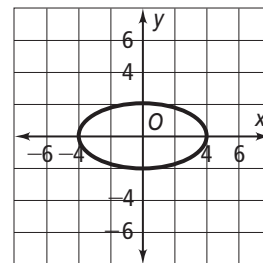
- (A) circle (B) ellipse (C) parabola (D) hyperbola

2. Which line is not a line of symmetry for $x^2 + y^2 = 25$?

- (F) $y = x$ (H) $y = x + 2$
 (G) $2y = 3x$ (I) $3y = 3x$

3. Which equation represents the graph at the right?

- (A) $4y^2 + 4x^2 = 4$ (C) $x^2 + 4y^2 = 16$
 (B) $4x^2 + y^2 = 16$ (D) $y^2 + x^2 = 16$



4. What are the lines of symmetry of a circle with the center at the origin?

- (F) the x -axis (H) the y -axis
 (G) the x - and y -axis (I) all lines that pass through the center

5. What is the range of $16x^2 + 9y^2 = 144$?

- (A) $-3 \leq y \leq 3$ (B) $-4 \leq y \leq 4$ (C) $-16 \leq y \leq 16$ (D) $-144 \leq y \leq 144$

6. What is the domain of $x^2 + y^2 = 64$?

- (F) $-8 \leq x \leq 8$ (G) $0 \leq x \leq 8$ (H) $-8 \leq y \leq 8$ (I) $-64 \leq x \leq 64$

Short Response

7. Describe the graph of $x^2 - y^2 = 16$. What is the center? What are the lines of symmetry? What are the domain and range?