

**Chapter Test A**

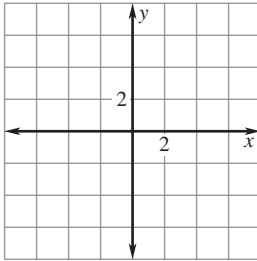
For use after Chapter 10

Find the distance between the two points. Then find the midpoint of the line segment connecting the two points.

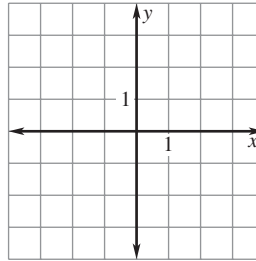
- $(0, 0), (6, 6)$
- $(0, 0), (6, -6)$
- $(10, 5), (-2, 0)$
- $(4, 3), (-4, -3)$

Graph the equation.

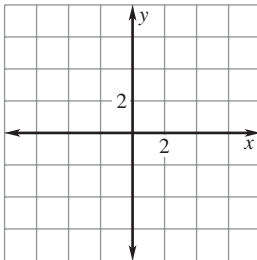
5.  $x^2 + y^2 = 16$



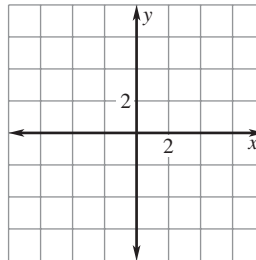
6.  $y^2 = 4x$



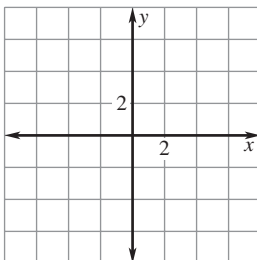
7.  $x^2 - y^2 = 16$



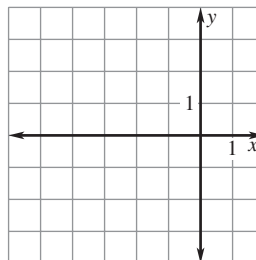
8.  $xy = 16$



9.  $4x^2 + 9y^2 = 100$



10.  $\frac{(x + 2)^2}{4} + \frac{y^2}{1} = 1$

**Answers**

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- Use grid at left. \_\_\_\_\_
- Use grid at left. \_\_\_\_\_
- Use grid at left. \_\_\_\_\_
- Use grid at left. \_\_\_\_\_
- Use grid at left. \_\_\_\_\_
- Use grid at left. \_\_\_\_\_

**Chapter Test A**

For use after Chapter 10

**Write an equation for the conic section.**

11. Parabola with vertex at  $(0, 0)$  and focus at  $(3, 0)$
12. Parabola with vertex at  $(0, 0)$  and directrix  $y = 6$
13. Circle with center at  $(0, 0)$  and radius 4
14. Circle with center  $(1, 1)$  and radius 5
15. Ellipse with center  $(0, 0)$ , vertex at  $(0, 6)$ , and co-vertex at  $(5, 0)$
16. Hyperbola with center  $(0, 0)$ , foci at  $(-2, 0)$  and  $(2, 0)$ , and vertices at  $(-1, 0)$  and  $(1, 0)$

**Classify the conic section and write its equation in standard form.**

- |                                      |                          |
|--------------------------------------|--------------------------|
| 17. $x^2 + y^2 - 16 = 0$             | 18. $y^2 + 2x = 0$       |
| 19. $3x^2 + 3y^2 - 48 = 0$           | 20. $25x^2 - 4y^2 = 100$ |
| 21. $4x^2 + y^2 - 16 = 0$            | 22. $4x^2 - y^2 = 16$    |
| 23. $4x^2 - 25y^2 = 100$             |                          |
| 24. $x^2 + y^2 - 12x - 12y + 36 = 0$ |                          |

**Find the points of intersection, if any, of the graphs in the system.**

- |                                 |   |
|---------------------------------|---|
| 25. $x^2 + y^2 = 16$<br>$y = 5$ | 26. $\frac{x^2}{4} + \frac{y^2}{16} = 1$<br>$x = 2$ |
|---------------------------------|---|

27. **Telescope** The equation of a mirror in a particular telescope is  $y = \frac{x^2}{520}$ , where  $x$  is the radius (in centimeters) and  $y$  is the depth (in centimeters). If the mirror has a diameter of 32 centimeters, what is the depth of the mirror?
28. Classify the mirror in Exercise 27 as parabolic, elliptical, or hyperbolic.

11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_
16. \_\_\_\_\_
17. \_\_\_\_\_
18. \_\_\_\_\_
19. \_\_\_\_\_
20. \_\_\_\_\_
21. \_\_\_\_\_
22. \_\_\_\_\_
23. \_\_\_\_\_
24. \_\_\_\_\_
25. \_\_\_\_\_
26. \_\_\_\_\_
27. \_\_\_\_\_
28. \_\_\_\_\_