11. $y = \sqrt{2 - x^2}$

13. **Physics** Suppose the light pattern from

be modeled by the equation $\frac{x^2}{25} - \frac{y^2}{9} = 1$. One of the points on the graph of this equation is at $\left(6, \frac{3\sqrt{11}}{5}\right)$, and one of the $x$-intercepts is $-5$. Find the coordinates of three additional points on the graph and the other $x$-intercept.

## EXERCISES

**Practice**

**Determine whether the graph of each function is symmetric with respect to the origin.**

14. $f(x) = 3x$

15. $f(x) = x^3 - 1$

16. $f(x) = 5x^2 + 6x + 9$

17. $f(x) = \frac{1}{4x^7}$

18. $f(x) = -7x^5 + 8x$

19. $f(x) = \frac{1}{x} - x^{100}$

20. Is the graph of $g(x) = \frac{x^2 - 1}{x}$ symmetric with respect to the origin? Explain how you determined your answer.

**Determine whether the graph of each equation is symmetric with respect to the $x$-axis, $y$-axis, the line $y = x$, the line $y = -x$, or none of these.**

21. $xy = -5$

22. $x + y^2 = 1$

23. $y = -8x$

24. $y = \frac{1}{x^2}$

25. $x^2 + y^2 = 4$

26. $y^2 = \frac{4x^2}{9} - 4$

27. Which line(s) are lines of symmetry for the graph of $x^2 = \frac{1}{y^2}$?