3-1

Practice

Symmetry and Coordinate Graphs

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

1. $f(x) = \frac{-12}{x}$

2. $f(x) = x^5 - 2$

3. $f(x) = x^3 - 4x$

4. $f(x) = \frac{x^2}{3 - x}$

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

5. $x + y = 6$

6. $x^2 + y = 2$

7. $xy = 3$

8. $x^3 + y^2 = 4$

9. $y = 4x$

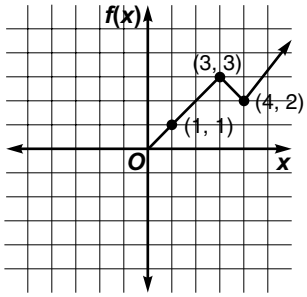
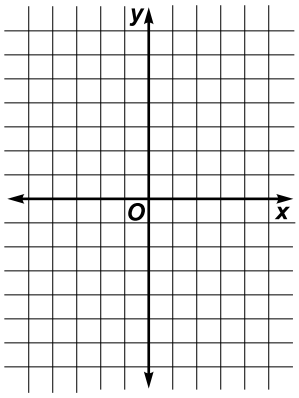
10. $y = x^2 - 1$

11. Is $f(x) = |x|$ an even function, an odd function, or neither?

Refer to the graph at the right for Exercises 12 and 13.

12. Complete the graph so that it is the graph of an odd function.

13. Complete the graph so that it is the graph of an even function.



14. ***Geometry*** Cameron told her friend Juanita that the graph of $|y| = 6 - |3x|$ has the shape of a geometric figure. Determine whether the graph of $|y| = 6 - |3x|$ is symmetric with respect to the x-axis, the y-axis, both, or neither. Then make a sketch of the graph. Is Cameron correct?