



Graph each function rule.

24. $y = |x| - 7$

25. $y = |x| + 2$

26. $y = 2|x|$

27. $y = x^3 - 1$

28. $y = 3x^3$

29. $y = -2x^2$

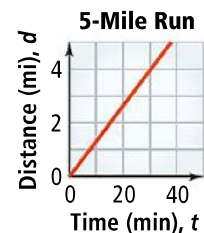
30. $y = |-2x| - 1$

31. $y = -x^3$

32. $y = |x - 3| - 1$

B Apply

- © 33. **Error Analysis** The graph at the right shows the distance d you run, in miles, as a function of time t , in minutes, during a 5-mi run. Your friend says that the graph is not continuous because it stops at $d = 5$, so the graph is discrete. Do you agree? Explain.



- © 34. **Writing** Is the point $(2, 2\frac{1}{2})$ on the graph of $y = x + 2$? How do you know?

35. **Geometry** The area A of an isosceles right triangle depends on the length ℓ of each leg of the triangle. This is represented by the rule $A = \frac{1}{2}\ell^2$. Graph the function rule. Is the graph *continuous* or *discrete*? How do you know?

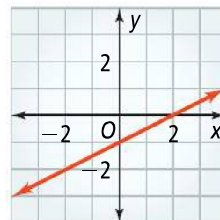
36. Which function rule is graphed below?

Ⓐ $y = -\frac{1}{2}x + 1$

Ⓑ $y = \frac{1}{2}x - 1$

Ⓒ $y = \left|\frac{1}{2}x\right| - 1$

Ⓓ $y = \frac{1}{2}x + 1$



37. **Sporting Goods** The amount a basketball coach spends at a sporting goods store depends on the number of basketballs the coach buys. The situation is represented by the function rule $a = 15b$.

a. Make a table of values and graph the function rule. Is the graph *continuous* or *discrete*? Explain.

b. Suppose the coach spent \$120 before tax. How many basketballs did she buy?

- © 38. **Think About a Plan** The height h , in inches, of the vinegar in the jars of pickle chips shown at the right depends on the number of chips p you eat. About how many chips must you eat to lower the level of the vinegar in the jar on the left to the level of the jar on the right? Use a graph to find the answer.

- What should the maximum value of p be on the horizontal axis?
- What are reasonable values of p in this situation?

$$h = 4.75 - 0.22p$$



- STEM** 39. **Falling Objects** The height h , in feet, of an acorn that falls from a branch 100 ft above the ground depends on the time t , in seconds, since it has fallen. This is represented by the rule $h = 100 - 16t^2$. About how much time does it take for the acorn to hit the ground? Use a graph and give an answer between two consecutive whole-number values of t .