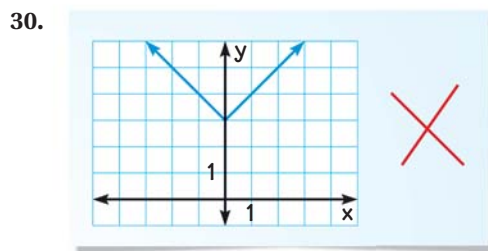
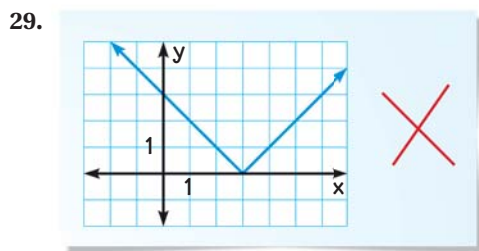


ERROR ANALYSIS Describe and correct the error in graphing $y = |x + 3|$.



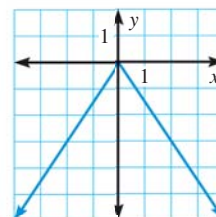
31. **TEXAS TAKS REASONING** Which equation has the graph shown?

(A) $y = \frac{3}{2}|x|$

(B) $y = \frac{2}{3}|x|$

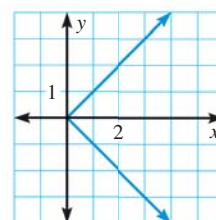
(C) $y = -\frac{2}{3}|x|$

(D) $y = -\frac{3}{2}|x|$



32. **WRITING** Describe how the signs of h and k affect how to obtain the graph of $y = f(x - h) + k$ from the graph of $y = f(x)$.

33. **TEXAS TAKS REASONING** The graph of the relation $x = |y|$ is shown at the right. Is the relation a function? Explain.



34. **REASONING** Is it true in general that $|x + h| = |x| + |h|$? Justify your answer by considering how the graphs of $y = |x + h|$ and $y = |x| + |h|$ are related to the graph of $y = |x|$.

35. **CHALLENGE** The graph of $y = a|x - h| + k$ passes through $(-2, 4)$ and $(4, 4)$. Describe the possible values of h and k .

PROBLEM SOLVING

EXAMPLE 1

on p. 124
for Ex. 36

36. **SPEEDOMETER** A car's speedometer reads 60 miles per hour. The error E in this measurement is $E = |a - 60|$ where a is the actual speed. Graph the function. For what value(s) of a will E be 2.5 miles per hour?

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EXAMPLE 3

on p. 125
for Ex. 37

37. **SALES** Weekly sales s (in thousands) of a new basketball shoe increase steadily for a while and then decrease as described by the function $s = -2|t - 15| + 50$ where t is the time (in weeks). Graph the function. What is the greatest number of pairs of shoes sold in one week?

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EXAMPLE 4

on p. 125
for Exs. 38–39

38. **TEXAS TAKS REASONING** On the pool table shown, you bank the five ball off the side at $(-1.25, 5)$. You want the ball to go in the pocket at $(-5, 0)$.

- Write an equation for the path of the ball.
- Do you make the shot? Explain how you found your answer.

