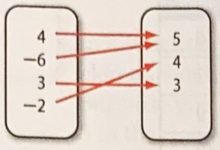
Practice and Problem Solving

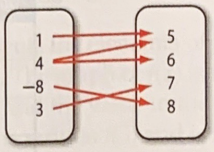
Extra Practice is on page

Example 1 Determine whether each relation is a function. Explain.

20.



21.



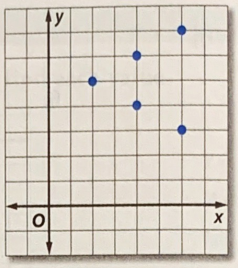
22.

Domain	Range
4	6
−5	3
6	−3
−5	5

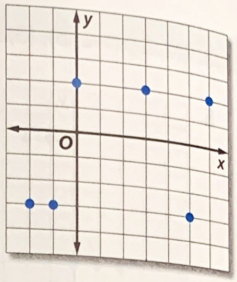
23.

Domain	Range
−4	2
3	−5
4	2
9	−7
−3	−5

24.



25.



Example 2 26. CCSS **SENSE-MAKING** The table shows the median home prices in the United States, from 2007 to 2009.

Year	Median Home Price ($)
2007	234,300
2008	213,200
2009	212,200

a. Write a set of ordered pairs representing the data in the table.

b. Draw a graph showing the relationship between the year and price.

c. What is the domain and range for this data?

Example 3 **Determine whether each relation is a function.**

27. $\{(5, -7), (6, -7), (-8, -1), (0, -1)\}$

28. $\{(4, 5), (3, -2), (-2, 5), (4, 7)\}$

29. $y = -8$

30. $x = 15$

31. $y = 3x - 2$

32. $y = 3x + 2y$

Examples 4–5 **If $f(x) = -2x - 3$ and $g(x) = x^2 + 5x$, find each value.**

33. $f(-1)$

34. $f(6)$

35. $g(2)$

36. $g(-3)$

37. $g(-2) + 2$

38. $f(0) - 7$

39. $f(4y)$

40. $g(-6m)$

41. $f(c - 5)$

42. $f(r + 2)$

43. $5[f(d)]$

44. $3[g(n)]$

45. **EDUCATION** The average national math test scores $f(t)$ for 17-year-olds can be represented as a function of the national science scores t by $f(t) = 0.8t + 72$.

a. Graph this function. Interpret the function in terms of the context.

b. What is the science score that corresponds to a math score of 308?

c. What is the domain and range of this function?