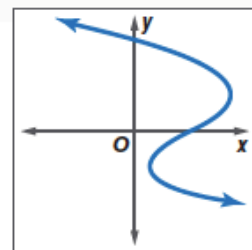


Concept Check

- OPEN ENDED** Write a relation of four ordered pairs that is *not* a function.
- Copy the graph at the right. Then draw a vertical line that shows that the graph does not represent a function.
- FIND THE ERROR** Teisha and Molly are finding $g(2a)$ for the function $g(x) = x^2 + x - 1$.



Teisha

$$g(2a) = 2(a^2 + a - 1)$$

$$= 2a^2 + 2a - 2$$

Molly

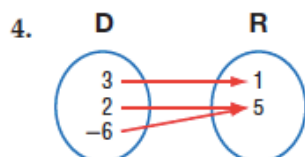
$$g(2a) = (2a)^2 + 2a - 1$$

$$= 4a^2 + 2a - 1$$

Who is correct? Explain your reasoning.

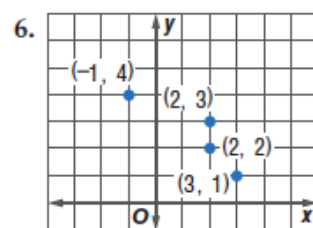
Guided Practice

Determine whether each relation is a function. Write *yes* or *no*.



5.

x	y
5	-2
10	-2
15	-2
20	-2



Graph each relation or equation and find the domain and range. Then determine whether the relation or equation is a function.

- $\{(7, 8), (7, 5), (7, 2), (7, -1)\}$
- $\{(6, 2.5), (3, 2.5), (4, 2.5)\}$
- $y = -2x + 1$
- $x = y^2$
- Find $f(5)$ if $f(x) = x^2 - 3x$.
- Find $h(-2)$ if $h(x) = x^3 + 1$.

Application

WEATHER For Exercises 13–16, use the table of record high temperatures ($^{\circ}\text{F}$) for January and July.

City	Jan.	July
Los Angeles	88	97
Sacramento	70	114
San Diego	88	95
San Francisco	72	105

Source: U.S. National Oceanic and Atmospheric Administration

- Identify the domain and range. Assume that the January temperatures are the domain.
- Write a relation of ordered pairs for the data.
- Graph the relation.
- Is this relation a function? Explain.

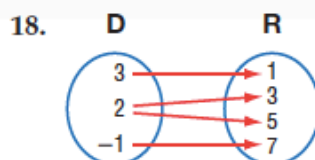
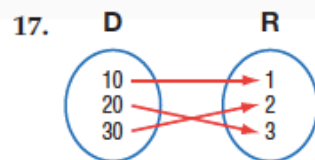
Practice and Apply

Homework Help

For Exercises	See Examples
17–28	1, 2
29–32	3
33, 34	4
35–45, 55	2
46–54, 56	5

Extra Practice
See page 830.

Determine whether each relation is a function. Write *yes* or *no*.



19.

x	y
0.5	-3
2	0.8
0.5	8

20.

x	y
2000	\$4000
2001	\$4300
2002	\$4000
2003	\$4500

