

3.1–3.3 Quiz

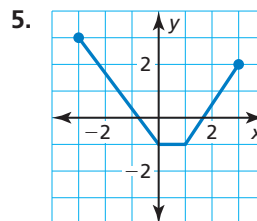
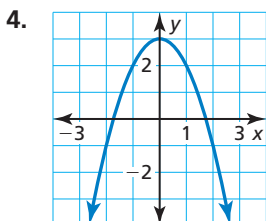
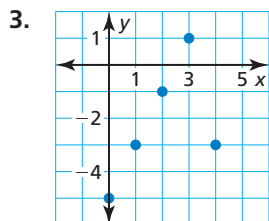
Determine whether the relation is a function. Explain. (Section 3.1)

1.

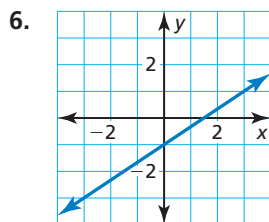
| | | | | | |
|-------------|----|---|---|---|---|
| Input, x | -1 | 0 | 1 | 2 | 3 |
| Output, y | 0 | 1 | 4 | 4 | 8 |

2. $(-10, 2), (-8, 3), (-6, 5), (-8, 8), (-10, 6)$

Find the domain and range of the function represented by the graph. (Section 3.1)



Determine whether the graph, table, or equation represents a *linear* or *nonlinear* function. Explain. (Section 3.2)



7.

| x | y |
|-----|-----|
| -5 | 3 |
| 0 | 7 |
| 5 | 10 |

8. $y = x(2 - x)$

Determine whether the domain is *discrete* or *continuous*. Explain. (Section 3.2)

9.

| | | | |
|---------------------|----|----|----|
| Depth (feet), x | 33 | 66 | 99 |
| Pressure (ATM), y | 2 | 3 | 4 |

10.

| | | | |
|---------------------|----|----|----|
| Hats, x | 2 | 3 | 4 |
| Cost (dollars), y | 36 | 54 | 72 |

11. For $w(x) = -2x + 7$, find the value of x for which $w(x) = -3$. (Section 3.3)

Graph the linear function. (Section 3.3)

12. $g(x) = x + 3$

13. $p(x) = -3x - 1$

14. $m(x) = \frac{2}{3}x$

15. The function $m = 30 - 3r$ represents the amount m (in dollars) of money you have after renting r video games. (Section 3.1 and Section 3.2)

- Identify the independent and dependent variables.
- Find the domain and range of the function. Is the domain discrete or continuous? Explain.
- Graph the function using its domain.

16. The function $d(x) = 1375 - 110x$ represents the distance (in miles) a high-speed train is from its destination after x hours. (Section 3.3)

- How far is the train from its destination after 8 hours?
- How long does the train travel before reaching its destination?