

Practice 5-3

Function Rules, Tables, and Graphs

Model each rule with a table of values and a graph.

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|------------------------------|--------------------------|-------------------------------|
| 1. $f(x) = x + 1$ | 2. $f(x) = 2x$ | 3. $f(x) = 3x - 2$ |
| 4. $f(x) = \frac{3}{2}x - 2$ | 5. $f(x) = \frac{1}{2}x$ | 6. $f(x) = -\frac{2}{3}x + 1$ |
| 7. $f(x) = x^2 + 1$ | 8. $f(x) = -x^2 + 2$ | 9. $f(x) = x - 3$ |
10. Suppose a van gets 22 mi/gal. The distance traveled $D(g)$ is a function of the gallons of gas used.
- Use the rule $D(g) = 22g$ to make a table of values and then a graph.
 - How far did the van travel if it used 10.5 gallons of gas?
 - Should the points of the graph be connected by a line? Explain.
11. The admission to a fairgrounds is \$3.00 per vehicle plus \$.50 per passenger. The total admission is a function of the number of passengers.
- Use the rule $T(n) = 3 + 0.50n$ to make a table of values and then a graph.
 - What is the admission for a car with six people in it?
 - Should the points of the graph be connected by a line? Explain.

Graph each function.

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| 12. $f(x) = 4x + 2$ | 13. $f(x) = -2x $ | 14. $f(x) = -3x + 7$ |
| 15. $f(x) = - x - 1$ | 16. $f(x) = 8 - \frac{3}{4}x$ | 17. $f(x) = \frac{2}{3}x - 7$ |
| 18. $f(x) = -\frac{2}{3}x + 6$ | 19. $f(x) = x^2 - 2x + 1$ | 20. $f(x) = -\frac{1}{2}x + 3$ |
| 21. $y = -x^2 + 1$ | 22. $y = 9 - x^2$ | 23. $y = 2x^2 + x - 2$ |

Make a table of values for each graph.

