Practice 5-3

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

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.
   a. Use the rule \( D(g) = 22g \) to make a table of values and then a graph.
   b. How far did the van travel if it used 10.5 gallons of gas?
   c. 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.
   a. Use the rule \( T(n) = 3 + 0.50n \) to make a table of values and then a graph.
   b. What is the admission for a car with six people in it?
   c. Should the points of the graph be connected by a line? Explain.

Graph each function.

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.

24. [Graph of a parabola with points (1, 3) and (2, 2)]
25. [Graph of a parabola with points (1, 2) and (2, 1)]
26. [Graph of a cubic function with points (1, 2) and (2, 3)]