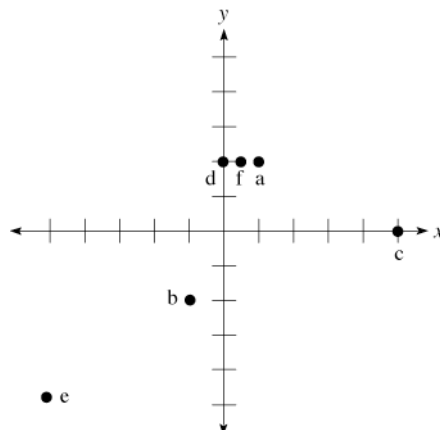


3.1 Paired Data and the Rectangular Coordinate System

1. Plotting the points:



3. A. (4,1) B. (-4,3)
 C. (-2,-5) D. (2,-2)
 E. (0,5) F. (-4,0)
 G. (1,0)

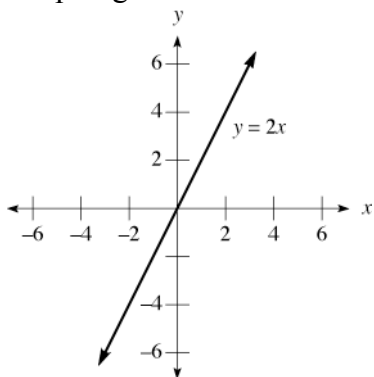
5. Table b, since its values match the equation.

7. Since the y-intercept is -2 and the slope is $\frac{2}{3}$, this is the graph of **b**.

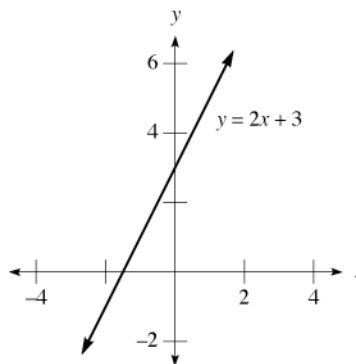
9. Since the graph is translated up 2 units, the equation is $y = x + 2$.

11. Since the graph is translated down 3 units, the equation is $y = |x| - 3$.

13. a. Graphing the line:



b. Graphing the line:





Intermediate Algebra

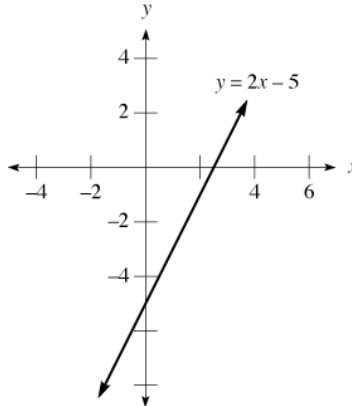
Problem Set 3.1

Solutions to Every Odd-Numbered Problem

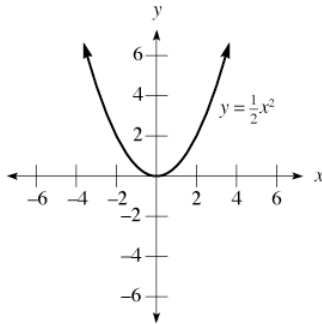
Name _____

Date _____

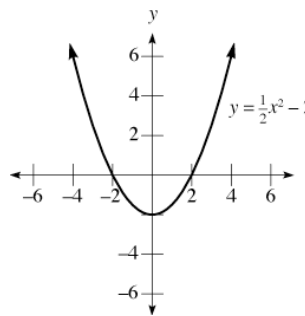
c. Graphing the line:



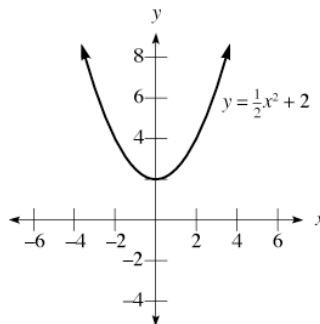
15. a. Graphing the curve:



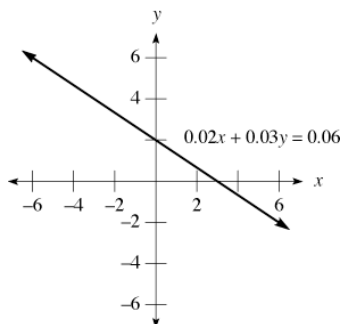
b. Graphing the curve:



c. Graphing the curve:



17. Graphing the line:





Intermediate Algebra

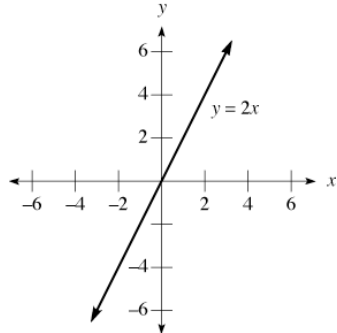
Problem Set 3.1

Solutions to Every Odd-Numbered Problem

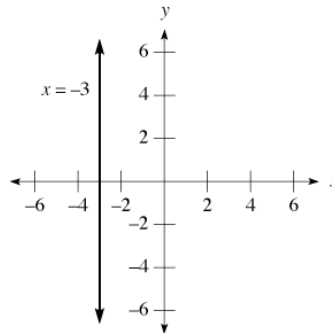
Name _____

Date _____

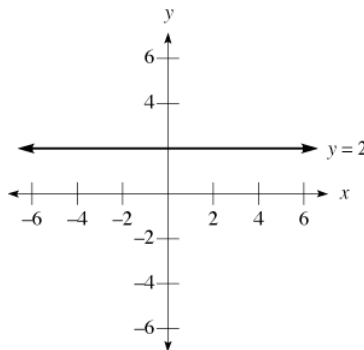
19. a. Graphing the line:



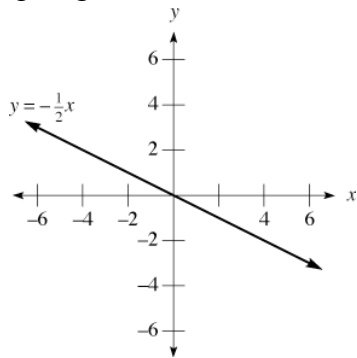
b. Graphing the line:



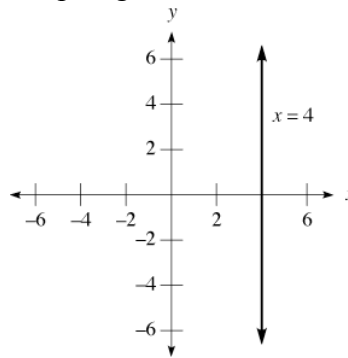
c. Graphing the line:



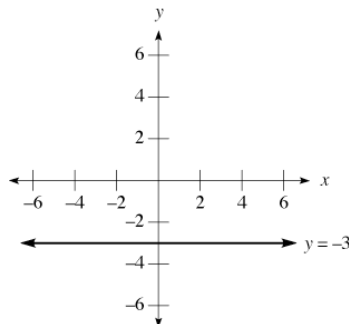
21. a. Graphing the line:



b. Graphing the line:



c. Graphing the line:





Intermediate Algebra

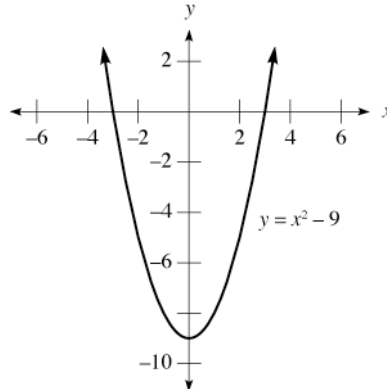
Problem Set 3.1

Solutions to Every Odd-Numbered Problem

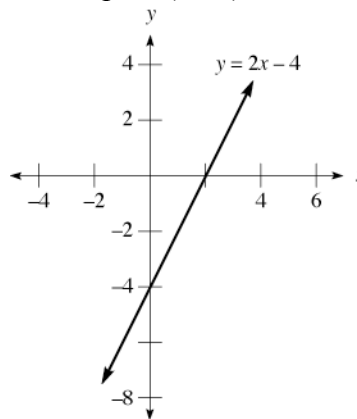
Name _____

Date _____

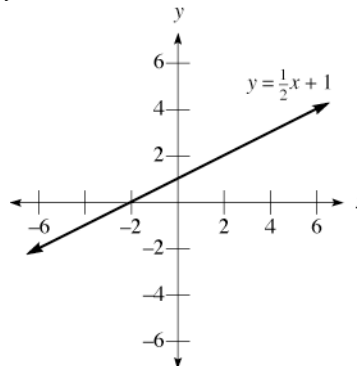
23. The x -intercepts are $(-3,0)$ and $(3,0)$, and the y -intercept is $(0,-9)$:



25. The x -intercept is $(2,0)$ and the y -intercept is $(0,-4)$:



27. The x -intercept is $(-2,0)$ and the y -intercept is $(0,1)$:





Intermediate Algebra

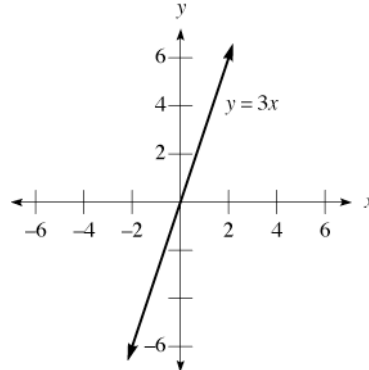
Problem Set 3.1

Solutions to Every Odd-Numbered Problem

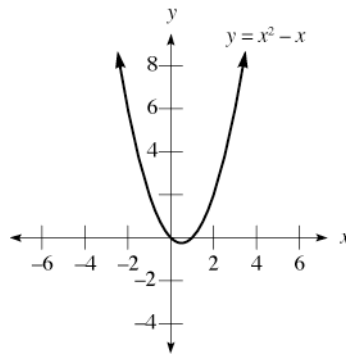
Name _____

Date _____

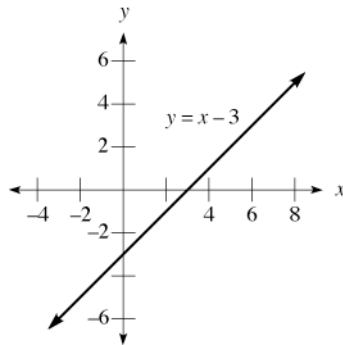
29. The x -intercept is $(0,0)$ and the y -intercept is $(0,0)$:



31. The x -intercepts are $(0,0)$ and $(1,0)$, and the y -intercept is $(0,0)$:



33. The x -intercept is $(3,0)$ and the y -intercept is $(0,-3)$:





Intermediate Algebra

Problem Set 3.1

Solutions to Every Odd-Numbered Problem

Name _____

Date _____

35. a. Solving the equation:

$$4x + 12 = -16$$

$$4x = -28$$

$$x = -7$$

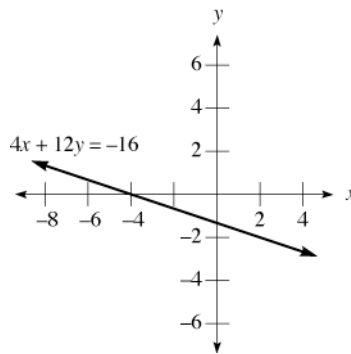
- c. Substituting $x = 0$:

$$4(0) + 12y = -16$$

$$12y = -16$$

$$y = -\frac{4}{3}$$

- d. Graphing the line:



- b. Substituting $y = 0$:

$$4x + 12(0) = -16$$

$$4x = -16$$

$$x = -4$$

- e. Solving for y :

$$4x + 12y = -16$$

$$12y = -4x - 16$$

$$y = -\frac{1}{3}x - \frac{4}{3}$$

37. a. Yes, (2000, 7500) is a point on the graph.
b. No, (2004, 15000) is not a point on the graph.
c. Yes, (2005, 15000) is a point on the graph.

39. Sketching the line graph:





Intermediate Algebra

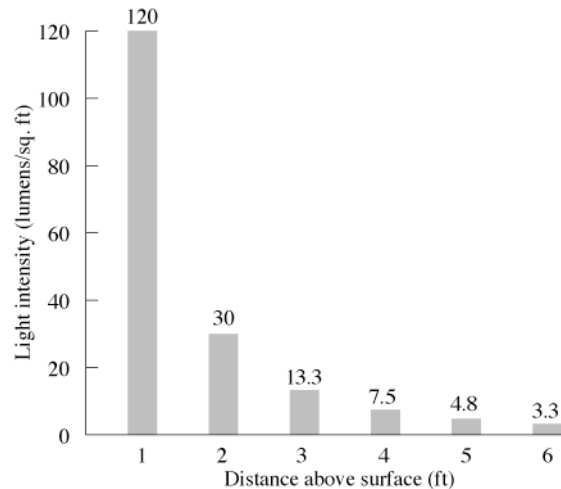
Problem Set 3.1

Solutions to Every Odd-Numbered Problem

Name _____

Date _____

41. Sketching the bar chart:



43. a. At 6:30, there are 60 people in line.
b. At 6:45, there are 70 people in line.
c. At 7:30, there are 10 people in line.
d. There are 60 people in line at 6:30 and at 7:00.
e. There are no people in line about 22 minutes after the show starts.

45. Writing as a fraction: $-0.06 = -\frac{6}{100}$

47. Substituting $x = 2$:

$$y = 2(2) - 3$$

$$y = 4 - 3$$

$$y = 1$$

49. Simplifying: $\frac{1 - (-3)}{-5 - (-2)} = \frac{4}{-3} = -\frac{4}{3}$

51. Simplifying: $\frac{-1 - 4}{3 - 3} = \frac{-5}{0}$, which is undefined

53. a. The number is $\frac{3}{2}$, since $\frac{2}{3} \cdot \frac{3}{2} = 1$.

b. The number is $-\frac{3}{2}$, since $\frac{2}{3} \cdot \left(-\frac{3}{2}\right) = -1$.

