Answers

Section 2.1

1) x-intercepts (-3,0) (3,0) y-intercept (0,9)
3) x-intercepts (-2,0) (1,0) (3,0) y-intercept (0,6)
5) x-intercept (8,0) y-intercept (0,-4)
7) x-intercept (-9,0) y-intercept (0,3) (0,-3)
9) x-intercept (1,0) \((-\frac{7}{3}, 0)\) y-intercept (0,-7)
11) x-intercept (2,0) y-intercept (0,2) (0,\(\frac{1}{3}\))
13) x-intercept (-1,0) y-intercept (0,\(-\frac{1}{6}\))
15) x-intercepts (2,0) (3,0) y-intercept (0,6)
17) x-intercept (4,0) (-4,0) y-intercept (0,4) (0,-4)
19 – 30 see solutions manual for graphs. The graphs took up too much space.

19) a = (1,-2) b = (-1,2) c = (-1,-2)
21) a = (-1, -3) b = (1,3) c = (1, -3)
23) a = (4,5) b = (-4, -5) c = (-4, 5)
25) a = (-3, 2) b = (3, -2) c = (3,2)
27) a = (5,0) b = (-5,0) c = (-5,0)
29) a = (0,2) b = (0, -2) c = (0,2)
31) symmetric to y-axis
33) symmetric to x-axis
35) symmetric to origin
37) no symmetry
39) symmetric to x-axis
41) symmetric to y-axis
43) symmetric to origin
45) no symmetry to x,y axis or origin
47) symmetric to y-axis
49) symmetric to x-axis

Section 2.2

1) distance 5 units, points plotted are (3,4) and (6,8)
3) distance \(2\sqrt{5}\) units, points plotted are (2,-5) and (4,-1)
Section 2.2 answers continued

5) distance 3 units, points plotted (7,3) and (4,3)

7) midpoint $\left(4\frac{1}{2}, 6\right)$ same graph as problem 1
9) midpoint (3, -3) same graph as #3

11) midpoint $\left(5\frac{1}{2}, 3\right)$ same graph as problem 5
13) slope $m = 4/3$

15) $m = 2$
17) $m = \text{undefined}$
19) $m = 0$

21) additional points (0,-5) (3,-3) (6,-1) (9,1)
2.2 answers continued

23) additional points (0,0) (3,2) (6,4) (9,6)

25) Additional points (0,-2) (1,1) (2,4) (3,7)
Section 2.2 answers continued

27) Additional points (0,5) (2,2) (4,-1) (6,-4)

29) Additional points (0,0) (3,-2) (6,-4) (9,-6)
31) x-intercept (6,0) y-intercept (0,12)

33) x-intercept \( \left(3 \frac{3}{4}, 0\right) \) y-intercept \( \left(0, 7 \frac{1}{2}\right) \)

35) x-intercept (4,0) y-intercept (0,-3)
37) $x$-intercept $(-3,0)$ $y$-intercept $\left(0, -\frac{2}{5}\right)$

39) $y = 4x - 22$
41) $y = \frac{2}{3}x + 1$
43) $y = 5x - 2$
45) $y = 3x - 11$
47) $y = \frac{4}{9}x + 1$
49) $y = -\frac{1}{3}x + \frac{7}{3}$
51) $y = -\frac{9}{4}x + 1$
53) $y = 4x - 11$
55) $y = -2x - 3$
SECTION 2.3

1) equation of circle \((x-3)^2 + (y+1)^2 = 4\)

3) equation of the circle \((x+4)^2 + (y-1)^2 = 9\)
5) equation of circle \((x + 3)^2 + (y + 2)^2 = \frac{1}{4}\)

7) equation of circle \(x^2 + (y-2)^2 = 25\)
Section 2.3 continued

9) equation of circle \((x-3)^2 + (y+1)^2 = 1\)

11) equation of circle \((x-2)^2 + (y-3)^2 = 9\)
13) equation of circle $x^2 + (y-3)^2 = 25$

15) equation of circle $(x-3)^2 + y^2 = 49$
Section 2.3 continued

17) equation of circle $x^2 + y^2 = 4$

19) $(x+2)^2 + (y-3)^2 = 25$

21) $(x-5)^2 + (y-2)^2 = 25$

23) $(x+1)^2 + (y-3)^2 = 5$

25) $(x-2)^2 + (y-6)^2 = 4$

Section 2.4

1) $W = kx^2$

3) $Y = \frac{k}{x^3}$

5) $Q = \frac{kx^2}{y^3}$

7) $M = kx^2y^3$

9) $D = kT^2$

11) $W = \frac{k}{L}$

13) $V = \frac{kT}{P}$

15) $k = 5$

17) $k = 50$

19) $k = 7$

21) $Y = 375$

23) $W = \frac{50}{3}$

25) $Y = 192$

27) 143 bags of candy

29) volume 4082 cubic centimeters

31) Ball will roll 72 feet

33) $D = 1.28$ inches in diameter

Chapter 2 review

1) x-intercept (3,0) y-intercept (0,-2)

2) x-intercept (-49,0) y-intercepts (0,-7) and (0,7)

3) x-intercepts (-7,0) and (1/2, 0) y-intercept (0,-7)

4) x-intercept (3,0) y-intercept (0,-1/2)

5) x-intercepts (-1,0) and (6,0) y-intercept (0,-6)

6) x-intercepts (11,0) and (-11,0) y-intercepts (0,11) and (0, -11)

7) symmetric to y-axis

8) symmetric to y-axis

9) symmetric to x-axis

10) symmetric to x-axis

11) symmetric to y-axis

12) symmetric to the origin
13) x-intercept (6,0) y-intercept (0,4)

14) x-intercept (10,0) y-intercept (0, $-7\frac{1}{2}$)

15) x-intercept (-6,0) y-intercept (0,-2)
Chapter 2 review

16) $y = 3x - 14$
17) $y = \frac{2}{3}x + 6$
18) $y = 2x - 3$
19) $y = \frac{4}{9}x - \frac{7}{3}$

20) Equation written in standard form $(x+3)^2 + (y+1)^2 = 9$

21) Equation written in standard form $(x+5)^2 + (y-4)^2 = 4$
Chapter 2 review

22) Equation written in standard form \((x-3)^2 + (y-2)^2 = 4\)

23) Equation written in standard form \((x+1)^2 + (y+2)^2 = 16\)

24) \((x+2)^2 + (y-3)^2 = 25\)

25) Answer \((x+1)^2 + (y-3)^2 = 5\)

26) \(M = \frac{12}{5}\)

27) \(Y = 300\)

28) \(D \text{ is about 94 bags}\)

29) \(D = 250 \text{ feet}\)