Chapter 10

10.1 **Graph the function. Compare the graph with the graph of $y = x^2$.**

1. $y = 4x^2$ **2.** $y = -5x^2$ **3.** $y = \frac{1}{2}x^2$ **4.** $y = -\frac{2}{5}x^2$

5. $y = x^2 + 3$ **6.** $y = x^2 - 2$ **7.** $y = 3x^2 + 4$ **8.** $y = -4x^2 - 3$

10.2 **Graph the function. Label the vertex and axis of symmetry.**

9. $y = x^2 + 4x + 4$ **10.** $y = -x^2 - 2x + 3$ **11.** $y = 2x^2 - 6x + 5$

12. $y = 3x^2 + 12x + 8$ **13.** $y = -2x^2 + 6$ **14.** $y = \frac{3}{4}x^2 - 3x$

10.3 **Solve the equation by graphing.**

15. $x^2 + 3x - 10 = 0$ **16.** $x^2 + 14 = 9x$ **17.** $-x^2 + 3x = -18$

18. $2x^2 + 3x - 20 = 0$ **19.** $2x^2 + x = 6$ **20.** $\frac{1}{2}x^2 - x = 12$

10.4 **Solve the equation. Round the solutions to the nearest hundredth, if necessary.**

21. $2x^2 - 20 = 78$ **22.** $3y^2 + 16 = 4$ **23.** $16y^2 - 6 = 3$

24. $48 - x^2 = -52$ **25.** $5m^2 - 5 = 10$ **26.** $2 - 5t^2 = 4$

10.5 **Solve the equation by completing the square. Round the solutions to the nearest hundredth, if necessary.**

27. $x^2 + 4x - 21 = 0$ **28.** $g^2 - 10g = 24$ **29.** $w^2 - 7w + 6 = 0$

30. $y^2 - \frac{3}{4}y = \frac{1}{4}$ **31.** $x^2 - 6x + 3 = 0$ **32.** $4m^2 + 8m - 7 = 0$

10.6 **Use the quadratic formula to solve the equation. Round the solutions to the nearest hundredth, if necessary.**

33. $h^2 + 6h - 72 = 0$ **34.** $3x^2 - 7x + 2 = 0$ **35.** $2k^2 - 5k + 2 = 0$

36. $n^2 + 1 = 5n$ **37.** $2z + 4 = 3z^2$ **38.** $5x^2 - 4x = 2$

10.7 **Tell whether the equation has *two solutions*, *one solution*, or *no solution*.**

39. $m^2 - 2m + 1 = 0$ **40.** $3x^2 + 6x + 2 = 0$ **41.** $2q^2 + 3q + 5 = 0$

42. $\frac{3}{4}x^2 - x + 2 = 0$ **43.** $2w^2 - 5w + 6 = 8$ **44.** $2y^2 + 10y - 5 = 3y^2 - 30$

10.8 **Tell whether the table of values represents a *linear function*, an *exponential function*, or a *quadratic function*. Then write an equation for the function.**

45.

x	−1	0	1	2	3
y	3	0	3	12	27

46.

x	0	1	2	3	4
y	−5	−2	1	4	7

47.

x	1	2	3	4	5
y	1	2	4	8	16

48.

x	−2	−1	0	1	2
y	18	14	10	6	2

EXTRA PRACTICE