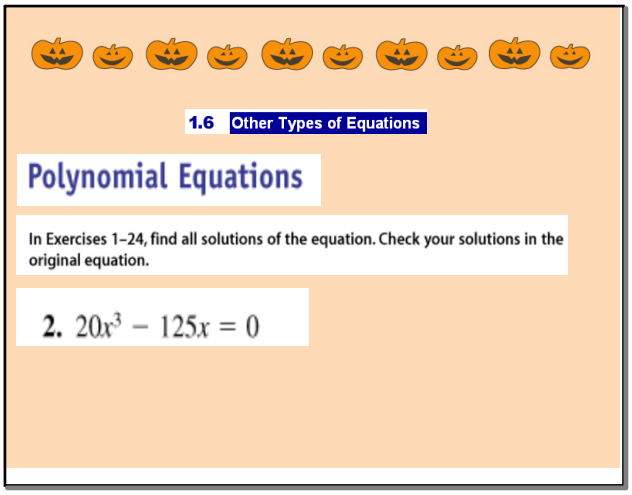


1.6 Other Types of Equations

Polynomial Equations

In Exercises 1–24, find all solutions of the equation. Check your solutions in the original equation.

2. $20x^3 - 125x = 0$

Pumpkins - top border

16. $36t^4 + 29t^2 - 7 = 0$

Aug 16 - 8:36 AM

Graphical Analysis In Exercises 25–28, (a) use a graphing utility to graph the equation; (b) use the graph to approximate any x-intercepts of the graph; (c) set $y = 0$ and solve the resulting equation; and (d) compare the result of part (c) with the x-intercepts of the graph.

26. $y = 2x^4 - 15x^3 + 18x^2$

Aug 16 - 8:39 AM

In Exercises 29–52, find all solutions of the equation. Check your solutions in the original equation.

32. $\sqrt{5 - x} - 3 = 0$

Aug 16 - 8:40 AM

38. $\sqrt{x + 5} = \sqrt{x - 5}$

Aug 16 - 8:40 AM

48. $(x + 2)^{2/3} = 9$

Aug 16 - 8:40 AM

44. $4\sqrt{x-3} - \sqrt{6x-17} = 3$

Aug 16 - 8:40 AM

In Exercises 57–70, find all solutions of the equation. Check your solutions in the original equation.

60. $\dfrac{4}{x+1} - \dfrac{3}{x+2} = 1$

Aug 16 - 8:41 AM

70. $|x-10| = x^2 - 10x$

Aug 16 - 8:41 AM

Graphical Analysis In Exercises 71–74, (a) use a graphing utility to graph the equation; (b) use the graph to approximate any x-intercepts of the graph; (c) set $y = 0$ and solve the resulting equation; and (d) compare the result of part (c) with the x-intercepts of the graph.

74. $y = |x - 2| - 3$

Aug 16 - 8:41 AM

In Exercises 75–78, find the real solutions of the equation analytically. (Round your answers to three decimal places.)

76. $7.08x^6 + 4.15x^3 - 9.6 = 0$

Aug 16 - 8:55 AM

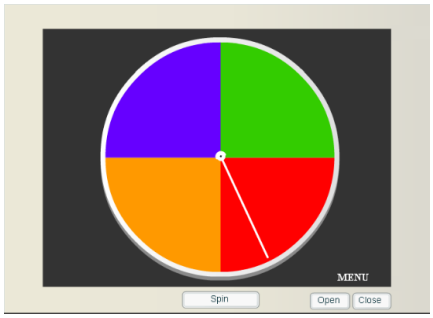
Think About It In Exercises 79–86, find an equation that has the given solutions. (There are many correct answers.)

80. 0, 3, 5

Aug 16 - 8:41 AM

90. ***Average Speed*** A family drove 1080 miles to their vacation lodge. Because of increased traffic density, their average speed on the return trip was decreased by 6 miles per hour and the trip took $2\frac{1}{2}$ hours longer. Determine their average speed on the way to the lodge.

Aug 16 - 8:55 AM



Aug 16 - 8:57 AM