

9-58. Write a polynomial equation for a graph that has three x -intercepts: $(-4, 0)$, $(1, 0)$, and $(3, 0)$, and passes through the point $(-1, 60)$.

9-59. The x -intercepts of a quadratic polynomial are given below. Find a possible quadratic equation in standard form.

a. $x = \frac{3}{4}, x = -2$

b. $x = -\sqrt{5}, x = \sqrt{5}$

9-60. Consider the functions $y = \frac{1}{2}$ and $y = \frac{16}{x^2 - 4}$. Find the coordinates where the graphs of the functions intersect.

9-61. Find the center and radius of each circle below.

a. $(y - 7)^2 = 25 - (x - 3)^2$

b. $x^2 + y^2 + 10y = -9$

c. $x^2 + y^2 + 18x - 8y + 47 = 0$

d. $y^2 + (x - 3)^2 = 1$

9-62. Without using a calculator, write the solution to each equation.

a. $2^x = 17$

b. $\log_3(x + 1) = 5$

c. $\log_3(3^x) = 4$

d. $4^{\log_4(x)} = 7$



9-63. Consider the function $y = x^2 + 5x + 7$.

a. Complete the square to find the vertex.

b. Find the y -intercept.

c. Use the vertex, the y -intercept, and the symmetry of parabolas to find a third point and sketch the graph.

9-64. Write a possible equation for the graph at right.

