

The deadline for all homework assignments is the one specified in Archie before 11:59 pm. As discussed in class, It must be correctly uploaded in order to be graded. Show all your work and justifications.

For Exercises 73–82, determine the x- and y-intercepts for the given function.

$$73. f(x) = 2x - 4$$

x-intercept: (2, 0); y-intercept: (0, -4)

$$76. k(x) = -|x| + 2$$

x-intercepts: (2, 0), (-2, 0); y-intercept: (0, 2)

$$79. r(x) = |x - 8|$$

x-intercept: (8, 0); y-intercept: (0, 8)

$$82. g(x) = -\sqrt{x} + 3$$

x-intercept: (9, 0); y-intercept: (0, 3)

$$75. h(x) = |x| - 8$$

x-intercepts: (8, 0), (-8, 0); y-intercept: (0, -8)

$$74. g(x) = 3x - 12$$

x-intercept: (4, 0); y-intercept: (0, -12)

$$77. p(x) = -x^2 + 12$$

x-intercepts: ( $2\sqrt{3}$ , 0), ( $-2\sqrt{3}$ , 0); y-intercept: (0, 12)

$$80. s(x) = |x + 3|$$

x-intercept: (-3, 0); y-intercept: (0, 3)

$$78. q(x) = x^2 - 8$$

x-intercepts: ( $2\sqrt{2}$ , 0), ( $-2\sqrt{2}$ , 0); y-intercept: (0, -8)

$$81. f(x) = \sqrt{x} - 2$$

x-intercept: (4, 0); y-intercept: (0, -2)

For Exercises 95–108, write the domain in interval notation.

$$95. f(x) = \frac{x-3}{x-4} \quad (-\infty, 4) \cup (4, \infty)$$

$$96. g(x) = \frac{x+6}{x-2} \quad (-\infty, 2) \cup (2, \infty)$$

$$98. k(a) = \frac{4a}{3a+4} \quad \left(-\infty, -\frac{4}{3}\right) \cup \left(-\frac{4}{3}, \infty\right)$$

$$99. m(x) = \frac{6}{|x|+4} \quad (-\infty, \infty)$$

$$101. r(a) = \sqrt{a+15} \quad [-15, \infty)$$

$$102. f(c) = \sqrt{c+12} \quad [-12, \infty)$$

$$104. k(x) = \frac{\sqrt{6-x}}{-3} \quad (-\infty, 6]$$

$$105. s(x) = \frac{5}{\sqrt{3-x}} \quad (-\infty, 3)$$

$$107. p(x) = 3x^2 - 4x + 1 \quad (-\infty, \infty)$$

$$108. q(x) = -2x^2 + 8x - 3 \quad (-\infty, \infty)$$

$$97. h(t) = \frac{2t}{2t+7} \quad \left(-\infty, -\frac{7}{2}\right) \cup \left(-\frac{7}{2}, \infty\right)$$

$$103. t(x) = \frac{\sqrt{3-x}}{5} \quad (-\infty, 3]$$

$$100. n(x) = \frac{-7}{x^2+3} \quad (-\infty, \infty)$$

$$106. h(x) = \frac{-3}{\sqrt{6-x}} \quad (-\infty, 6)$$