

When required, approximate square roots by rounding to the nearest hundredth.

1. Find the x intercepts for each of the following quadratic functions.

(a) $y = (x + 4)(x - 6)$

(b) $y = -2(x - 3)(4x - 5)$

(c) $y = 3(2x + 1)(x - 7)$

(d) $y = -2(x - 4)^2 + 3$

(e) $y = 4(x + 2)^2 - 1$

2. Expand and simplify each equation in question 1 to get the standard form equation. Find the y -intercept from your result.

3. Using the discriminant, $b^2 - 4ac$, determine the number of x -intercepts for the following quadratic functions. Find the x -intercepts, if there is at least one.

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

(b) $y = x^2 - 6x + 9$

(c) $y = 3x^2 - 10x + 8$

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

(e) $y = 4x^2 + 20x + 25$