

20.0

3 CST items

Students use the quadratic formula to find the roots of a second-degree polynomial and to solve quadratic equations.

Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Key Vocabulary

Quadratic

Roots

Discriminant

Quadratic Formula

Instructional Objectives

1	Use the quadratic formula to find the solution(s) to quadratic equations.	1	Find all solutions for x : $8x^2 + 28x - 120 = 0$.
		2	Find all solutions for x : $x^2 + 13.05x + 3.2 = 0$.
		3	Find all solutions for x : $2x^2 + 10x + 5 = 0$.
		4	Find all solutions for x : $-8x^2 - 8x - 2 = 0$.
2	Use the discriminant to determine if a quadratic equation has zero, one, or two solutions.	1	What is the discriminant of: $x^2 - 6x + 8 = 0$?
		2	How many real solutions exist for: $3x^2 - 10x - 8 = 0$?
		3	How many real solutions exist for: $9x^2 - 12x + 4 = 0$?
		4	Which best explains why there are no real solutions of the equation $5x^2 + 3x + 1 = 0$?
			a) $(3)^2 - 4(5)(1) = 0$ b) $(3)^2 - 4(5)(1) > 0$ c) $(3)^2 - 4(5)(1) < 0$ d) $(3)^2 - 4(5)(1) \geq 0$