Mathematics 11UC

3.4 – Solving Quadratic Equations

Part II

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How to solve…

solutions, roots

- Solving means to find the zero/x-intercepts
- To solve, move everything to one side
- Use technology to solve, or factor
- To factor, rewrite the equation in standard form.

$ax^2+bx+c=0$

Break even, find the zeros.

$$x^2 + 3x + 10 = 5x^2 - 4x - 5$$

$$0 = 2x^2 - 7x - 15$$

$$0 = 2x^2 - 10x + 3x - 15$$

$$0 = 2x(x-5) + 3(x-5)$$

$$0 = (x-5)(2x+3)$$

$=0$ $\quad$ $=0$

$\times$ $\quad -30$

$+$ $\quad -7 \quad \cdot 10, 3$

$x - 5 = 0$

$x = 5$

$2x + 3 = 0$

$2x = -3$

$x = -\frac{3}{2} = -1.5$

$$(x+3)(x-1) = 2(x-5)(x+3)$$

$$x^2 - x + 3x - 3 = 2(x^2 + 3x - 5x - 15)$$

$$x^2 + 2x - 3 = 2x^2 - 4x - 30$$

$$0 = 1x^2 - 6x - 27$$

(x) -27

(+) -6

$-9, 3$

$$0 = (x-9)(x+3)$$