

Math 110- 8.2

Quadratic Formula: $ax^2 + bx + c = 0$

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

Solve the quadratic

$$f(x) = 4x^2 + 2x - 3$$

$$4x^2 + 2x - 3 = 0$$

$$a = 4, b = 2, c = -3$$

$$\Rightarrow x = \frac{-2 \pm \sqrt{2^2 - 4(4)(-3)}}{2(4)}$$

$$= \frac{-2 \pm \sqrt{4 + 48}}{8}$$

$$= \frac{-2 \pm \sqrt{52}}{8} = \frac{-2 \pm 2\sqrt{13}}{8}$$

$$= \frac{2(-1 \pm \sqrt{13})}{8} = \frac{-1 \pm \sqrt{13}}{4}$$

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

$$3x^2 + 5x - 3 = 0$$

HW.

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

$$x^2 + 4x + 2 = 0 \Rightarrow x^2 + 4x + 2 = 0$$

$$\Rightarrow a = 1, b = 4, c = 2$$

$$x = \frac{-4 \pm \sqrt{4^2 - 4(1)(2)}}{2(1)}$$

$$= \frac{-4 \pm \sqrt{16 - 8}}{2}$$

$$= \frac{-4 \pm \sqrt{8}}{2} = \frac{-4 \pm 2\sqrt{2}}{2}$$

$$= \frac{2(-2 \pm \sqrt{2})}{2} = -2 \pm \sqrt{2}$$

$$x^2 + 8x = -3$$

$$x^2 + 8x + 3 = 0$$

$$a = 1, b = 8, c = 3$$

HW

2

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