

"roots" → x-intercepts

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

$$a=3 \quad b=1 \quad c=2$$

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

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

+2 +2

$$\frac{-1 \pm \sqrt{(1)^2 - 4(3)(2)}}{2(3)}$$

$$\left[\begin{array}{c} 3x^2 + x + 2 = 0 \\ \uparrow \quad \uparrow \quad \uparrow \\ a \quad b \quad c \end{array} \right]$$

$$\frac{-1 \pm \sqrt{1 - 24}}{6}$$

$$\frac{-1 \pm \sqrt{-23}}{6}$$

$$\frac{-1 \pm \sqrt{23} \cdot \sqrt{-1}}{6}$$

$$\sqrt{-1} = i$$

$$\frac{-1 + i\sqrt{23}}{6} \quad \frac{-1 - i\sqrt{23}}{6}$$

$$\frac{-1 \pm i\sqrt{23}}{6}$$

0 roots

discriminant

$$b^2 - 4ac > 0$$

2 roots

$$b^2 - 4ac = 0$$

1 root

$$b^2 - 4ac < 0$$

0 roots

$$-2x^2 - 5x + 6 = 3$$

-3 -3

Use discriminant to find how many zeros.

$$b^2 - 4ac$$

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

$$a = -2 \quad b = -5 \quad c = 3$$

$$(-5)^2 - 4(-2)(3)$$

$$25 + 24 = 49 \quad 2 \text{ roots}$$

$$(-7-8i)(-4-4i)$$

FOIL

$$28 + 28i + 32i + 32i^2$$

$$28 + 60i + 32i^2$$

$$28 + 60i + 32(-1)$$

$$28 + 60i - 32$$

$$\boxed{-4 + 60i}$$

$$(-6-8i)(8-7i)$$

$$-48 + 42i - 64i + 56i^2$$

$$56(-1)$$

$$-56$$

$$-48 + 42i - 64i - 56$$

$$\boxed{-104 - 22i}$$

Combine like terms

$$i^2 = (\sqrt{-1})^2 = -1$$

$$i = \sqrt{-1}$$

FOIL

$$i^2 = -1$$

HW
Go through previous Supplementals
as needed
HW/quiz 24 due tonight
HW/quiz 25 due April 15th
Optimal Ch 5 Review
No Quiz 26
HW 26
Ch 5 Pre-test

