

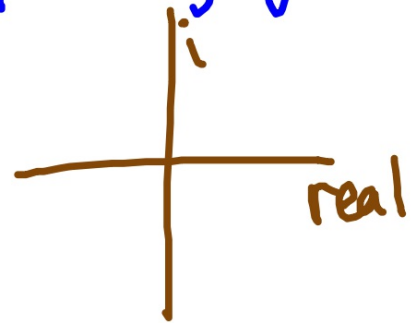
$$\text{Distance: } \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \neq$$

Summary: **MODE**  $a+bi$  **2ND**  $\square$   $\Rightarrow i$

When dividing, multiply by conjugate of denom

$$i = \sqrt{-1} \quad i^2 = -1$$

$$|a+bi| = \text{distance from } (0,0) \\ \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$



12.7 EQ: How DO YOU SOLVE QUADRATIC EQUATIONS?

**Solve by Quadratic Formula**

$$ax^2 + bx + c = 0,$$

solutions

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

$2x^2 + 6x - 5 = 0$

a b c

$$x = \frac{-(-6) \pm \sqrt{(-6)^2 - 4(2)(-5)}}{2(2)}$$

Discriminant:  $b^2 - 4ac$

$$x = \frac{-6 \pm \sqrt{76}}{4}$$

Find the discriminant and then solve the equation.

1)  $3x^2 + 10x - 25 = 0$

2)  $4x^2 - 12x = -9$

3)  $2x^2 = -6x - 7$

$+9+9$

$-2x^2 - 2x^2$

$4x^2 - 12x + 9 = 0$

$0 = -2x^2 - 6x - 7$

$$\frac{5}{3}, -5$$

$$\frac{3}{2}$$

$$\frac{-6 \pm i\sqrt{20}}{4}$$