

MTH 112 Class Notes

⑬ $1x^2 + 12x + 11 = 0$ Weds 8-22-12

$$x^2 + 12x + \{6^2\} = -11 + \{36\}$$

$$(x+6)^2 = 25$$

$$x+6 = \pm 5$$

$$x = -6 \pm 5 = \{-1, -11\}$$

QF *

$$a = 1$$

$$b = 12$$

$$c = 11$$

$$b^2 - 4ac$$

$$(12)^2 - 4(1)(11)$$

$$144 - 44 = 100 = d$$

$$x = \frac{-b \pm \sqrt{d}}{2a}$$

$$x = \frac{-12 \pm 10}{2} = \{-1, -11\}$$

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

QUAD
EQUATION

$$f(x) = ax^2 + bx + c = y$$

QUAD
Function

$$x = \frac{-b \pm \sqrt{d}}{2a}$$

QUAD.
FORMULA
(X intercepts)

we $x=0$ to find y intercept

$$\frac{ax^2}{a} + \frac{bx}{a} + \frac{c}{a} = 0$$

$$x^2 + \frac{b}{a}x + \frac{c}{a} = 0$$

$$x^2 + \frac{b}{a}x + \left(\frac{b}{2a}\right)^2 = -\frac{c}{a} \cdot \frac{4a}{4a} + \left(\frac{b^2}{4a^2}\right)$$

$$\sqrt{\left(x + \frac{b}{2a}\right)^2} = \sqrt{\frac{b^2 - 4ac}{4a^2}}$$

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

$$-\frac{b}{2a} \quad -\frac{b}{2a}$$

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

Voilà!

by Ashley Evans

$$(54) \quad 5N^2 + 10N + 35 = -3N - 10 + 4N^2$$

$$N^2 + 13N + 45 = 0$$

$$b^2 - 4ac$$

$$a = 1$$

$$(13)^2 - 4(1)(45)$$

$$b = 13$$

$$169 - 180 = \boxed{-11 = d}$$

$$c = 45$$

$$X = \frac{-13 \pm \sqrt{-11}}{2}$$

$$\boxed{X = \frac{-13 \pm i\sqrt{11}}{2}}$$

CK ?