Tutorial #3

1. Finding roots of x^2+3x+2

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

$(x+2)(x+1)=0$

$x=-2 \quad x=-1$

OR Quadratic formula

2. $-3x+4y=5$

$2x-y=-10$

$$\begin{bmatrix} -3 & 4 \\ 2 & -1 \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix}=\begin{bmatrix} 5 \\ -10 \end{bmatrix}$$

⋮

① $y=10+2x$

② $3x+4(10+2x)=5$

$11x+40=5$

$11x=-35$

$x=3.18$

$y=16.36$

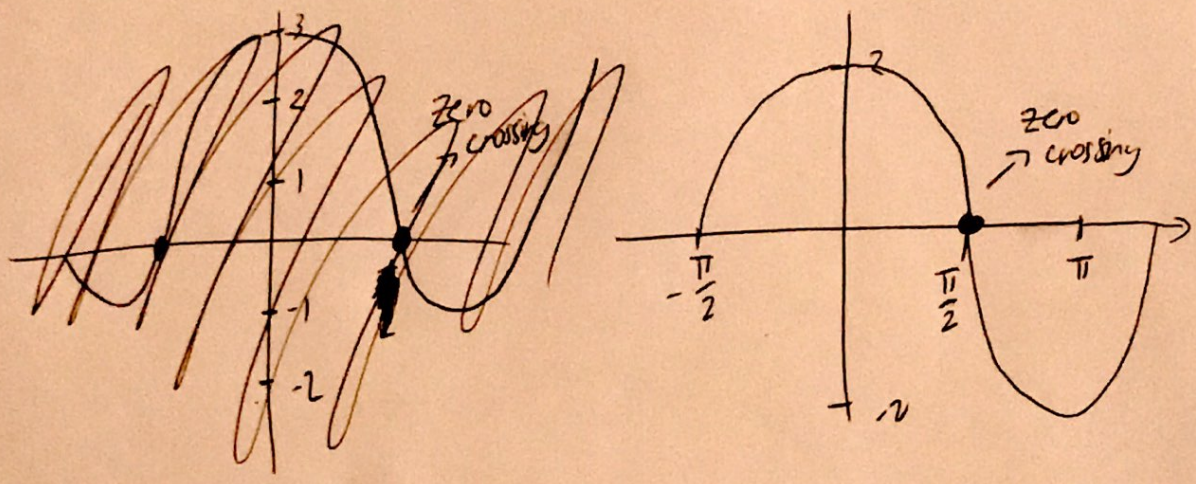
$\Rightarrow$ Proof:

$2(3.18)-16.36=-10$

3.

$f(x) = 2\cos(x) + 0$

Graph:



Q2 Bonus

$Mx = B$

$Mx = N \longrightarrow x = \text{linsolve}(M, N) \longrightarrow x = \frac{N}{M}$

Representation mathematically — MATLAB — Equation

We want

$x = \frac{N}{M}$ & $x = \frac{M}{N}$