

Pg 3

$$B) \quad 8x^2 = -3x - 18$$

$$8x^2 + 3x + 18 = 0$$

$$x = \frac{-3 \pm \sqrt{3^2 - 4 \times 8 \times 18}}{2 \times 8}$$

$$x = \frac{-3 \pm \sqrt{9 - 576}}{16}$$

$$x = \frac{-3 \pm \sqrt{-576}}{16}$$

$$x = \frac{-3 \pm \sqrt{-1 \times 576}}{16}$$

$$x = \frac{-3 \pm \sqrt{1} \times \sqrt{16}}{16}$$

$$x = \frac{6 \pm j \times 4}{16}$$

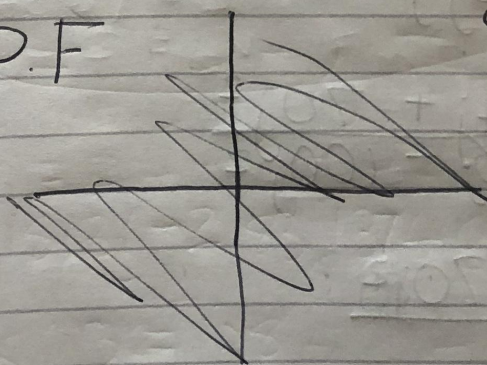
$$x = \frac{6 + 4j}{16}$$

$$x = \frac{6 - 4j}{16}$$

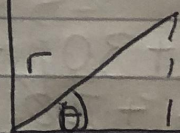
$$0.375 + 0.25j$$

$$0.375 - 0.25j$$

in P.F



0.25j



0.375 real

$$r^2 = 0.375^2 + 0.25^2$$

$$r = \sqrt{0.141 + 0.0625}$$

$$r = \sqrt{0.2035}$$

$$r = \underline{\underline{0.451}}$$

$$\tan \theta = \frac{0.25}{0.375}$$

$$\theta = \tan^{-1} \left(\frac{0.25}{0.375} \right)$$

$$\theta = 33.69^\circ$$

$$0.451 (\cos 33.69 + j \sin 33.69)$$