

$$r^2 = 2^2 + 7^2$$

$$r^2 = \sqrt{4 + 49}$$

$$r^2 = 53$$

$$r = \sqrt{53}$$

$$r = 7.2801$$

$$\theta = \tan^{-1} \frac{7}{2}$$

$$\theta = \tan^{-1}(7/2)$$

$$\theta = 74.05^\circ$$

$$\theta = 180 - 74.05$$

$$\theta = 105.95^\circ$$

Put into equation

$$7.2801^4 (\cos 4 \times 105.95 + j \sin 4 \times 105.95)$$

$$2808.98 (\cos 423.8 + j \sin 423.8)$$

$$d) j^2 = -1$$

$$e) Z_1 Z_2 \bar{Z}_3$$

$$(5 + 4j) \times (1 + 5j) \times (2 + 3j)$$

$$(5 + 25j + 4j + 20j^2) (2 + 3j)$$

$$(5 + 29j - 20) (2 + 3j)$$

$$10 + 15j + 58j + 87j^2$$

$$10 + 73j - 87$$

$$f)$$