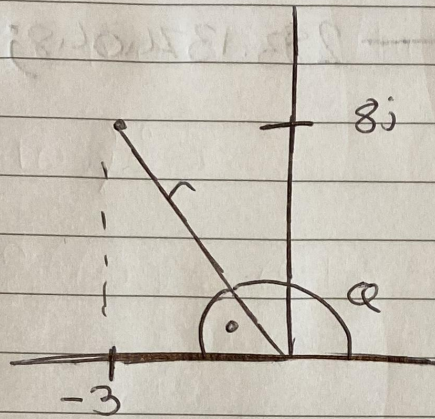


$$b) (-3 + 8j)^5$$

$$r^n (\cos n\theta + j \sin n\theta)$$



$$r^2 = 3^2 + 8^2$$

$$\tan \theta = \frac{8}{3}$$

$$r = \sqrt{9 + 64}$$

$$\theta = \tan^{-1} \left(\frac{8}{3} \right)$$

$$r = \sqrt{73}$$

$$\theta = 69.443$$

$$r = 4.179$$

$$\theta = 180 - 69.44 \text{ (3dp)}$$

$$\theta = 110.557^\circ$$

$$4.179^5 (\cos 5 \times 110.557 + j \sin 5 \times 110.557)$$

$$1274.564611 (\cos 552.835 + j \sin 552.835)$$

Polar form

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