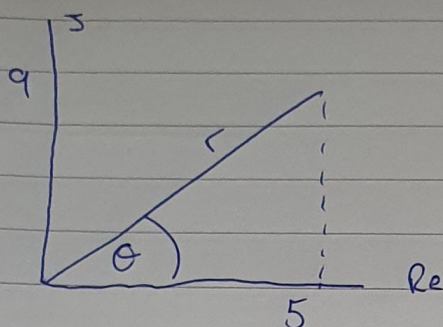


$$c) i) (5 - 9j)^5$$



$$r^2 = 9^2 + 5^2$$

$$81 + 25$$

$$r = \sqrt{106}$$

$$\tan \theta = \frac{9}{5}$$

$$\theta = \tan^{-1} \frac{9}{5}$$

$$\theta = 71.56$$

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

$$(106)^4 (\cos 4 \times 71.56 + j \sin 4 \times 71.56)$$

$$126247696 (\cos 286.24 + j \sin 286.24)$$

$$126247696 (0.28 - 0.96j)$$

$$= \boxed{35349354.88 - 121197788.2j}$$