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c)

ii) $(5-9j)^5$

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

$$r = \sqrt{25 + 81}$$

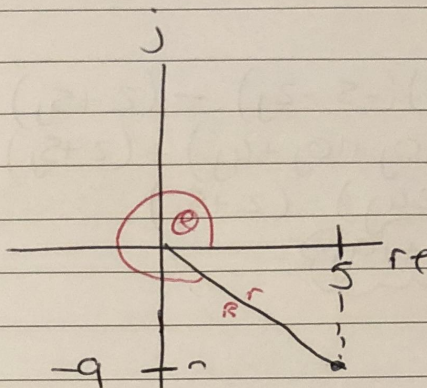
$$r = \sqrt{106}$$

$$r = 10.30$$

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

$$\theta = \tan^{-1}\left(\frac{9}{5}\right)$$

$$\theta = 60.95^\circ$$



$$\theta = 180 + 60.95^\circ$$

$$\theta = 240.95^\circ$$

$$(10.30)^5 (\cos 5 \times 240.95^\circ + j \sin 5 \times 240.95^\circ)$$

$$115927.41 (\cos 1204.75 + j \sin 1204.75)$$

$$115927.41 (-0.57 + 0.82j)$$

$$RF = -66078.62 + 95060.48j$$