

1)

2)

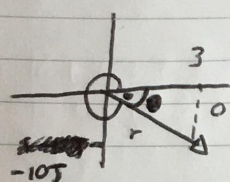
3)

4)

5)

6)

i) $(3 - 10j)^6$
 ~~$r^n (\cos n\theta + j \sin n\theta)$~~
 $r^n (\cos n\theta + j \sin n\theta)$



$$r^2 = 3^2 + 10^2$$

$$r = \sqrt{9 + 100}$$

$$r = \sqrt{109}$$

$$r = 10.44$$

$$\tan = \frac{10}{3}$$

$$= \tan^{-1} \left(\frac{10}{3} \right)$$

$$= 73.3^\circ$$

$$\theta = 360 - 73.3^\circ$$

~~$\theta = 286.7$~~

$$= 286.7$$

~~10.44~~

$$10.44^6 (\cos 6 \times 286.7 + j \sin 6 \times 286.7)$$

$$1294800.898 (\cos 1720.2 + j \sin 1720.2)$$