

Pg 14

Romylos Frangos 06/1/2021
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(c)

$$(i) (3 - 10j)^6$$

$$\tan \theta = \frac{-10}{3}$$
$$\theta = -73.30^\circ$$

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

$$r^2 = 9 + 100$$

$$r = \sqrt{109}$$

$$(\sqrt{109})^6 (\cos(6)(-73.30) + j \sin(6)(-73.30))$$

$$\Rightarrow (\sqrt{109})^6 (0.177 + j \sin 0.0135)$$

$$\Rightarrow \sqrt{1295029} (\cos(6)(-73.30) + j \sin(6)(-73.30))$$