

$$b. z = (4+7i)(3-2i)$$

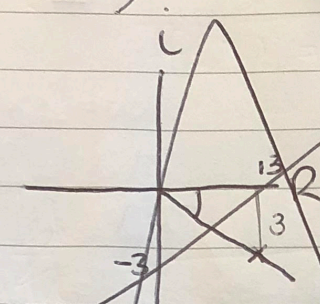
polar form.

$$z = R \angle \theta$$

$$\begin{aligned} z &= 12 - 8i + 2i - 14i^2 \\ &= 12 - 6i + 14 \\ &= 26 - 6i \end{aligned}$$

$$= 26 - 6i$$

not quite!



$$R = \sqrt{(13)^2 + (-3)^2}$$

$$R = 12.65$$

$$\tan \theta = \frac{b}{a}$$

$$\tan \theta = \frac{3}{13}$$

$$\theta = 12.99^\circ$$

$$360^\circ - 13 = 347^\circ$$

So, $z = 13 \angle 347^\circ$

$$z = (4+7i)(3-2i)$$

$$\begin{aligned} &= 12 - 8i + 2i - 14i^2 = 12 - 6i + 14(-1) \\ &= 12 + 13i - 14(-1) \\ &= 26 + 13i \end{aligned}$$