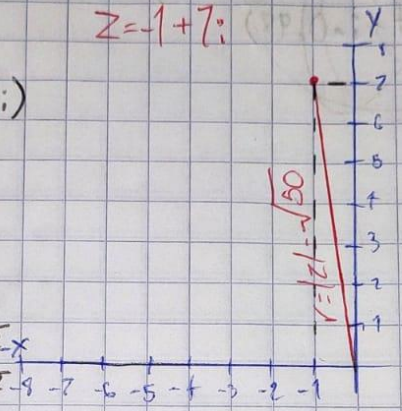
24/02/2022

Tarea
Calcular el valor de Z y expresarlo en todas sus formas con su gráfico.

$Z=(2+6i)-(3-i)$ $\quad Z=-1+7i$



① $Z=(2+6i)-(3-i)$
$Z=2+6i-3+i$
$Z=-1+7i$

② $(-1,7)$

③ $r=|z|=\sqrt{a^2+b^2}$
$r=|z|=\sqrt{(-1)^2+(7)^2}$
$r=|z|=\sqrt{1+49}$
$r=|z|=\sqrt{50}$

$\theta=\tan^{-1}\frac{b}{a}$

$\theta=\tan^{-1}\frac{7}{-1}$

$\theta=-81.86$
Ajuste $=180°-81.86°$
$=98.14°$
↳ $90°-81.86=8.14°$
$8.14+90=98.14°$

$\theta=98.14°$

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④ $Z = r(\cos\theta + i \cdot \operatorname{Sen}\theta)$
$Z = \sqrt{50}(\cos 98.14 + i \cdot \operatorname{Sen} 98.14)$
$Z = \sqrt{50}\ \operatorname{CIS}\ 98.14°$

⑤ $Z = r \angle \theta$
$Z = \sqrt{50} \angle 98.14°$

⑥ $Z = r\, e^{\theta i}$
$Z = \sqrt{50}\, e^{\theta i}$

$\theta_{rad} = \frac{98.14° \pi}{180°} i$

$Z = \sqrt{50}\, e^{\frac{98.14° \pi}{180°} i}$

$Z = \sqrt{50}\, e^{0.54° \pi i}$