Álgebra Tarea 0

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1) Encontrar numeros reales a y b tales que:

$$\frac{2-i}{3+4i} + i^{25} = a + bi \qquad a, b \in \mathbb{R}$$

$$\boxed{\begin{aligned} i^{25} &= i \cdot (i^2)^{12} \\ &= i \cdot (-1)^{12} \\ &= i \cdot 1 = i \end{aligned}}$$

$$\frac{2-i}{3+4i} + i = a + bi$$

$$\frac{(2-i)\cdot(3-4i)}{(3+4i)\cdot(3-4i)} + i = a + bi$$

$$\frac{2-11i}{9+16} + i = a + bi$$

$$\frac{2-11i}{25} + \frac{25i}{25} = a + bi$$

$$\frac{2+14i}{25} = a + bi \longrightarrow \boxed{a = \frac{2}{25} \text{ y } b = \frac{14}{25}}$$