

El conjugado es \bar{z} : $z = a - bi$

Demstrar: $\overline{z_1 \cdot z_2} = \bar{z}_1 \cdot \bar{z}_2 \leftarrow \text{entrega XP!!}$

Para $z_1 = a + bi$, $z_2 = c + di$:

$$\bar{z}_1 = a - bi, \quad \bar{z}_2 = c - di.$$

$$\begin{aligned}\bar{z}_1 \cdot \bar{z}_2 &= (a - bi)(c - di) = ac - adi - bci + bdi^2 = \\ &= ac - bd - (ad + bc)i\end{aligned}$$

$$\begin{aligned}z_1 \cdot z_2 &= (a + bi)(c + di) = ac + adi + bci + bdi^2 = \\ &= ac - bd + (ad + bc)i\end{aligned}$$

$$\overline{z_1 \cdot z_2} \Rightarrow u - vi = ac - bd - (ad + bc)i = \bar{z}_1 \cdot \bar{z}_2 \quad \checkmark$$