30) Dados $\gamma_1, \gamma_2, \gamma_3$ graficar imágenes y hallar expresión analítica de $\gamma_1 \vee \gamma_2^* \vee \gamma_3$

$\gamma_1 : t \to (\cos 2t, \operatorname{sen} 2t) \qquad t \in [0, \pi/4]$

$\gamma_2 : t \to (0, t) \qquad t \in [0, 1]$

$\gamma_3 : t \to (t, 0) \qquad t \in [0, 1]$

$\gamma_1 : [0, \pi/4] \to \mathbb{C}$

$t \to (\cos 2t, \operatorname{sen} 2t)$

$x = \cos 2t \Rightarrow \cos(\operatorname{arcsen}(y)) = x$

$y = \operatorname{sen} 2t \Rightarrow \frac{\operatorname{arcsen}(y)}{2} = t$

$\gamma_2 : [0, 1] \to \mathbb{C}$

$t \to (0, t)$

$x = 0$

$y = t$

$\gamma_2^* : [0, 1] \to \mathbb{C}$

$t \to \gamma_2(1 - t) = \gamma_2^* = (0, 1 - t)$

$\gamma_1 \vee \gamma_2^* : [0, \pi/4 + 1] \to \mathbb{C}$

$t \to (\gamma_1 \vee \gamma_2^*) t$

$$\begin{cases} \gamma_1(t) = (\cos 2t, \operatorname{sen} 2t) & t \in [0, \pi/4] \\ \gamma_2^*(1 + t) = (0, -t) & t \in [\pi/4, \pi/4 + 1] \end{cases}$$

aplicar γ_2^* a $(1+t)$ — Es igual a $\gamma_2(t) = (0, -t)$

$\gamma_1(\pi/4) = \gamma_2^*(0)$

$(0, 1) = (0, 1)$

$\gamma_2^*(1+t) = (0, 1-t)$

$\gamma_3 : [0, 1] \to \mathbb{C}$

$t \to (t, 0)$

$\gamma_1 \vee \gamma_2^* \vee \gamma_3 : [0, \pi/4 + 2] \to \mathbb{C}$

$t \to (\gamma_1 \vee \gamma_2^* \vee \gamma_3) t$

$$\begin{cases} \gamma_1(t) = (\cos 2t, \operatorname{sen} 2t) & t \in [0, \pi/4] \\ \gamma_2^*(1 + t) = (0, -t) & t \in [\pi/4, \pi/4 + 1] \\ \gamma_3(t - \pi/4 - 1) = (t, 0) & t \in [\pi/4 + 1, \pi/4 + 2] \end{cases}$$

¿Cumple $\gamma_1 \vee \gamma_2^*(b) = \gamma_3(c)$?

$\gamma_1 \vee \gamma_2^*(\pi/4 + 1) = \gamma_2^*(\pi/4 + 2) = (0, \pi/4 + 2)$

$\gamma_3(\pi/4 + 1 - \pi/4 - 1) = \gamma_3(0) = (0, 0)$

$\neq$ (Consultar)