

$$\text{Έχουμε : } \vec{\alpha} + \vec{\beta} + \vec{\gamma} = 0 \Rightarrow \vec{\gamma} = -(\vec{\alpha} + \vec{\beta}) \Rightarrow$$

$$\Rightarrow |\vec{\gamma}|^2 = |-(\vec{\alpha} + \vec{\beta})|^2 \Rightarrow |\vec{\gamma}|^2 = |\vec{\alpha}|^2 + 2|\vec{\alpha}| \cdot |\vec{\beta}| \cdot \cos(\vec{\alpha}, \vec{\beta}) + |\vec{\beta}|^2 \Rightarrow$$

$$\begin{matrix} |\vec{\alpha}|=3, |\vec{\beta}|=5, |\vec{\gamma}|=7 \\ \Rightarrow \end{matrix} 7^2 = 3^2 + 2 \cdot 3 \cdot 5 \cdot \cos(\vec{\alpha}, \vec{\beta}) + 5^2 \Rightarrow$$

$$\Rightarrow 49 = 9 + 30 \cos(\vec{\alpha}, \vec{\beta}) + 25 \Rightarrow$$

$$\Rightarrow 30 \cos(\vec{\alpha}, \vec{\beta}) = 15 \Rightarrow$$

$$\Rightarrow \cos(\vec{\alpha}, \vec{\beta}) = \frac{1}{2} \Rightarrow (\vec{\alpha}, \vec{\beta}) = \frac{\pi}{3}$$