

Exercice 4

$$(\vec{OI}, \vec{OA}) = -60^\circ = \underline{\underline{-\frac{\pi}{3}}} \quad \text{Mesure principale}$$

$$(\vec{OI}, \vec{OB}) = 150^\circ = \underline{\underline{\frac{5\pi}{6}}} \quad \text{Mesure principale}$$

$$(\vec{OB}, \vec{OA}) = (\vec{OB}, \vec{OI}) + (\vec{OI}, \vec{OA}) = -150^\circ - 60^\circ = -210^\circ \\ = \underline{\underline{-\frac{7\pi}{6}}}$$

$-\frac{7\pi}{6} \notin]-\pi, \pi]$, donc $-\frac{7\pi}{6}$ n'est pas une mesure principale

$$\text{MP}(\vec{OB}, \vec{OA}) = -\frac{7\pi}{6} + 2\pi = \underline{\underline{\frac{5\pi}{6}}}$$

$$(\vec{AO}, \vec{AB}) = +\frac{1}{2} (\pi - \frac{5\pi}{6}) = \underline{\underline{\frac{\pi}{12}}} \quad (\text{car } AOB \text{ est un triangle isocèle})$$

$$(\vec{AB}, \vec{AI}) = (\vec{AB}, \vec{AO}) + (\vec{AO}, \vec{AI}) = -\frac{\pi}{12} + (\vec{AO}, \vec{AI})$$

$$AOI \text{ est un triangle isocèle, donc } (\vec{AO}, \vec{AI}) = -\frac{1}{2} (\pi - \frac{\pi}{3}) = -\frac{\pi}{3}$$

$$\text{Donc } (\vec{AB}, \vec{AI}) = -\frac{\pi}{12} - \frac{\pi}{3} = \underline{\underline{-\frac{5\pi}{12}}}$$

$$(\vec{OI}, \vec{AB}) = (\vec{OI}, \vec{AO}) + (\vec{AO}, \vec{AB}) = \cancel{(\vec{OI}, \vec{OA})} + (\vec{AO}, \vec{AB}) \\ = -\frac{\pi}{3} + \frac{\pi}{12} = -\frac{4\pi}{12} + \frac{\pi}{12} = -\frac{3\pi}{12} = \underline{\underline{-\frac{\pi}{4}}}$$