

Exercice 6:  $U = \frac{\sqrt{6} - i\sqrt{2}}{2}$       $V = 1 - i$

$$|U| = \sqrt{\left(\frac{\sqrt{6}}{2}\right)^2 + \left(-\frac{\sqrt{2}}{2}\right)^2} = \sqrt{\frac{6}{4} + \frac{2}{4}} = \frac{2\sqrt{2}}{2}$$

$$\cos \sigma(U) = \frac{\operatorname{Re} U}{|U|} = \frac{\sqrt{6}/2}{2\sqrt{2}/2} = -\frac{\sqrt{3}}{2} \quad \left. \begin{array}{l} \\ \end{array} \right\} \Rightarrow \sigma(U) = \frac{\pi}{6}$$

$$\sin \sigma(U) = \frac{\operatorname{Im} U}{|U|} = \frac{-\sqrt{2}/2}{2\sqrt{2}/2} = -\frac{1}{2}$$

$$|V| = \sqrt{1^2 + (-1)^2} = \sqrt{2}$$

$$\cos \sigma(V) = \frac{\operatorname{Re} V}{|V|} = \frac{1}{\sqrt{2}} \quad \left. \begin{array}{l} \\ \end{array} \right\} \Rightarrow \sigma(V) = \frac{\pi}{4}$$

$$\sin \sigma(V) = \frac{\operatorname{Im} V}{|V|} = -\frac{1}{\sqrt{2}}$$

$$\left| \frac{U}{V} \right| = \frac{|U|}{|V|} = \frac{2\sqrt{2}}{2} / \sqrt{2} = 1$$

$$\cos \sigma(U/V) = \frac{\operatorname{Re} U/V}{|U/V|} = \frac{(\sqrt{6}/2)/1}{1} = \frac{\sqrt{6}}{2}$$

$$\sin \sigma(U/V) = \frac{\operatorname{Im} U/V}{|U/V|} = \frac{-\sqrt{2}/2/1}{1} = -\frac{\sqrt{2}}{2}$$

$$\sigma(U/V) = \frac{\sigma(U)}{\sigma(V)} = \frac{\pi/6}{\pi/4} = \frac{2}{3} \quad ? \quad \text{(résultat probablement incorrect: l'argument n'est pas une valeur de } \pi)$$