

DEPLACE

Ambre

Ex 4d

$$\begin{aligned} z &= \frac{\cos a - i \sin a}{\sin a - i \cos a} = \frac{(\cos a - i \sin a)(\sin a + i \cos a)}{(\sin a - i \cos a)(\sin a + i \cos a)} \\ &= \frac{\cos a \sin a + \cos a i \cos a - i \sin a \sin a + \sin a \cos a}{\sin^2 a + \cos^2 a} \\ &= \sin(2a) + i \cos(2a) \\ &= \cos\left(\frac{\pi}{2} - 2a\right) + i \sin\left(\frac{\pi}{2} - 2a\right) \\ &= e^{i\left(\frac{\pi}{2} - 2a\right)} \end{aligned}$$