2. $i' = 90°$

loi réfraction au point J : $n \sin r_0' = 1 \cdot \sin 90°$

$\sin 90° = 0 \Rightarrow \sin r_0' = \frac{1}{n} \Rightarrow r_0' = \arcsin\left(\frac{1}{n}\right) = 41,81°$

$\hat{A} = r + r' \Rightarrow r_0 = \hat{A} - r_0' = 60° - 41,81° = 18,19°$

Loi de la réfraction en I : $1 \sin i_0 = n \sin r_0$

donc $\sin i_0 = n \sin r_0 \Rightarrow i_0 = \arcsin(n \sin r_0) = 27,92°$

3. $\hat{D}_{max} = i_0 + 90° - 60° = 57,92°$