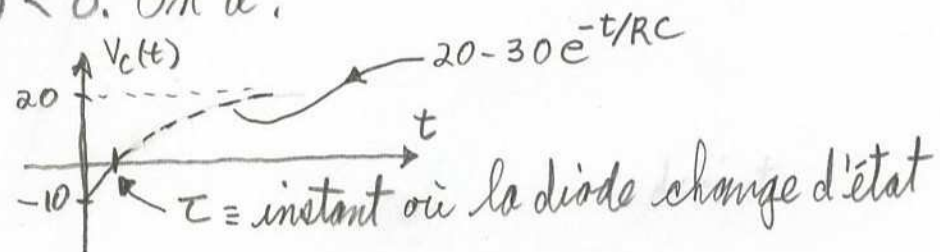


On voit que $V_D = V_C(t)$. D est polarisée négativement tant que $V_C(t) < 0$. On a :



$$V_C(\tau) = 0 = 20 - 30e^{-\tau/RC}$$

$$\Rightarrow \tau = -RC \ln\left(\frac{20}{30}\right)$$

$$= RC \ln\left(\frac{3}{2}\right)$$

$$= (1 \text{ k}\Omega)(25 \mu\text{F}) \ln\left(\frac{3}{2}\right) = 10.14 \text{ ms.}$$

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