

ENGR065-HW #5-3

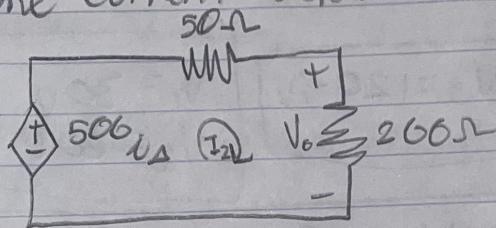
Problem 5) a) mesh 3: $-500i_{\Delta} + 50I_2 + 200I_2 = 0$

$$I_2 = \frac{500i_{\Delta}}{250}$$

$$I_2 = 2i_{\Delta}$$

$$\begin{aligned} V_o &= (200I_2) \text{ V} \\ &= 200 \cdot 2 \cdot i_{\Delta} \\ &\boxed{= 60 \text{ V}} \end{aligned}$$

b) we have one current dependent voltage source in the circuit



$$\begin{aligned} \text{Power} &= (\text{Voltage across CDVS}) \cdot (\text{Current supplied by CDVS}) \\ &= (500 \cdot i_{\Delta}) \cdot I_2 \\ &= (500 \cdot 0.15) \cdot (2 \cdot 0.15) \boxed{= 22.5 \text{ watts}} \end{aligned}$$