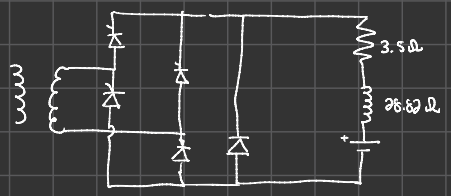
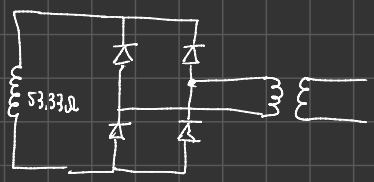




2) $V_{moy} = \frac{2V\sqrt{2}}{\pi}$

$160 = \frac{2V\sqrt{2}}{\pi}$

$V_{RMS} = 177.72V$

3) $\frac{240}{177.71} = 1.35047$

5) $I_{moyen} = 0$

$I_{RMS} = 3$

6) 177.75 · 3 = 533.25 VA (on prend RMS)

7) $V_{moy} = \frac{V\sqrt{2}}{\pi}(1+\cos(\alpha))$

$201.75 = \frac{V\sqrt{2}}{\pi}(1+\cos(30))$

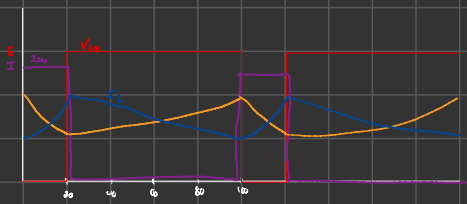
$V = 240.17$

8) $\frac{240}{240.17} = 0,9999$

9) $I_{RMS} = \sqrt{60\left(\int_{1/120}^{1/100} 7^2\,dt + \int_{1/120}^{1/100} 7^2\,dt\right)}$

$I_{RMS} = 6.39\ A$

Problème 2 :



2) $V_s = -V_c$ $\quad V_E = E$

$V_s = -\frac{\alpha V_c}{(1-\alpha)} \Rightarrow -V_c = -\frac{\alpha E}{(1-\alpha)}$

$\frac{V_c}{E} = \frac{\alpha}{(1-\alpha)}$

$I = \frac{\alpha E}{R(1-\alpha)}$

$\Delta I_L = \frac{E \cdot \alpha}{Lf}$

3) $I = \frac{\alpha E}{R(1-\alpha)} = \frac{0.2 \cdot 24}{2(1-0,2)} = 3A$

$\Delta I_L = \frac{E \cdot \alpha}{Lf} = 1,6A$

$V_c = \frac{\alpha E}{(1-\alpha)} = 6\ V$

4) $P_{mos\ cond} = 0.10 \cdot 3^2 \cdot 0.2$

$= 0,198$

$W_{com} = \frac{1}{2}(2+3)(500 \cdot 10^{-9})$

$= f \cdot W_{com}$

$P_{com} = 1.8\ W$

c) $85 - 15 = R_{th} \cdot 1.998$

$R_{th} = 35.03$

$P_{mos} = 1.998$

$P_o = 0,7 \cdot 3(1-0,2) = 1,68$