

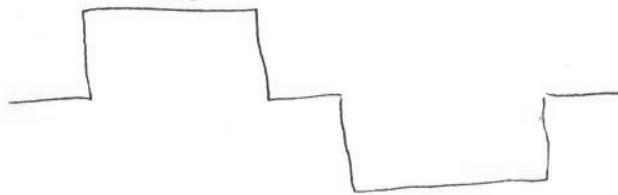
(2P)

Probleme 1

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MAYO 2009

a)



$$I_{ref} = \sqrt{\frac{2}{3}} I_{dc} = 78A$$

$$S = \sqrt{3} U I_{ref} = 30.9 \text{ kVA}$$

b)

$$E = \frac{3 U \sqrt{3}}{\pi} \cos \alpha - \frac{3}{\pi} X_{cc} \cdot I_{dc}$$

$$\alpha = 0 \Rightarrow X_{cc} = \frac{\pi}{3} \left(\frac{3 U \sqrt{3}}{\pi} - E \right) \cdot \frac{1}{I_{dc}} = 2.2 \Omega$$

$$X_{cc} = \frac{U^2}{S} \alpha_{cc} \Rightarrow \alpha_{cc} = \frac{S}{U^2} X_{cc} = 1.26 \text{ [pu]}$$

