

N° 8.1

$$R = \frac{\varphi \cdot l}{A} = \frac{0,0175 \cdot 1260}{90} = 0,245 \Omega$$

$$R_t = R + R = 0,245 + 0,26 = 0,505 \Omega$$

$$I = \frac{U}{R} = \frac{600}{0,505} = \underline{\underline{1188,12 \text{ A}}}$$

N° 8.2

$$I = \frac{U}{R} = \frac{225}{31} = \underline{\underline{7,258 \text{ A}}}$$

N° 8.3

$$I = \frac{U}{R} = \frac{300}{50'000} = \underline{\underline{6 \text{ mA}}}$$

N° 8.4

Le point neutre est relié à la terre donc couplage Y !

$$U_{Ph} = \frac{U}{\sqrt{3}} = \frac{16}{1,73} = 9,237 \text{ kV}$$

$$I = \frac{U}{R} = \frac{9237}{8600} = \underline{\underline{1,074 \text{ A}}}$$

$$P = R \cdot I^2 = 8600 \cdot 1,074^2 = \underline{\underline{9,923 \text{ kW}}}$$

N° 8.5

$$I_{tot} = I_a + I_b = 0,642 + 1,065 = 1,707 \text{ A} = 100\%$$

$$I_a = \frac{0,642 \cdot 100}{1,707} = 37,61\% \Rightarrow R_a = 62,39\%$$

$$I_b = \frac{1,065 \cdot 100}{1,707} = 62,39\% \Rightarrow R_b = 37,61\%$$

$$\Delta R \% = 62,39 - 37,61 = 24,78\%$$

$$A = \phi^2 \cdot 0,785 = 8^2 \cdot 0,785 = 50,265 \text{ mm}^2$$

$$R = \frac{\varphi \cdot l}{A} = \frac{0,0175 \cdot 320}{50,65} = 111,41 \text{ m } \Omega$$

$$R_b = R - 24,78\% = 111,41 - 24,78\% = 83,8 \text{ m } \Omega$$

$$l = \frac{R \cdot A}{\varphi} = \frac{0,838 \cdot 50,265}{0,0175} = \underline{\underline{240 \text{ m}}}$$