№ 13.1.1.1

$$\text{Erreur} = \frac{1,5 \cdot 300}{100} = \pm\ 4,5\ V$$

№ 13.1.1.2

$$\text{Erreur} = \frac{2,5 \cdot 300}{100} = \pm\ 7,5\ V$$

min. Valeur réelle $= 230 - 7,5 = 222,5\ V$

max Valeur réelle $= 230 + 7,5 = 237,5\ V$

№ 13.1.1.3

$$\text{Erreur} = \frac{0,5 \cdot 75}{100} = \pm\ 0,375\ mA$$

№ 13.1.1.4

$$\text{Erreur} = \frac{0,5 \cdot 750}{100} = \pm\ 3,75\ mA$$

min. Valeur réelle $= 320 - 3,75 = 316,25\ mA$

max. Valeur réelle $= 320 + 3,75 = 323,75\ mA$

№ 13.1.1.5

$$\text{Erreur} = \frac{1,5 \cdot 10'000}{100} = \pm\ 150\ \Omega$$

a) $\begin{cases} \text{min. Valeur réelle} = 10'000 - 150 = 9850\ \Omega \\ \text{max. Valeur réelle} = 10'000 + 150 = 10\ 150\ \Omega \\ \%\ .\ \text{Erreur} = \dfrac{150 \cdot 100}{10'000} = 1,5\ \% \end{cases}$

b) $\begin{cases} \text{min. Valeur réelle} = 7500 - 150 = 7\ 350\ \Omega \\ \text{max Valeur réelle} = 7500 + 150 = 7650\ \Omega \\ \%\ .\ \text{Erreur} = \dfrac{150 \cdot 100}{7500} = 2\ \% \end{cases}$

c) $\begin{cases} \text{min. Valeur réelle} = 5000 - 150 = 4850\ \Omega \\ \text{max. Valeur réelle} = 5000 + 150 = 5150\ \Omega \\ \%\ \text{Erreur} = \dfrac{150 \cdot 100}{5000} = 3\ \% \end{cases}$

13. 1. 1. 5 Suite

$$\begin{cases} \text{min. Valeur réelle} = 2500 - 150 = \underline{2350\ \Omega} \\ \text{max. Valeur réelle} = 2500 + 150 = \underline{2650\ \Omega} \\ \%\ \text{Erreur} = \dfrac{150 \cdot 100}{2500} = \underline{6\%} \end{cases}$$

N° 13. 1.1. 6

$$\text{Erreur} = \frac{1,5 \cdot 3300}{100} = \underline{\pm 49,5\ W}$$

min. Valeur réelle $= 2460 - 49,5 = \underline{2410,5\ W}$

max. Valeur réelle $= 2460 + 49,5 = \underline{2509,5\ W}$

N° 13.1.1.7

a) lecture $= \underline{36\ V}$

Valeur réelle del'Erreur $= \dfrac{2,5 \cdot 50}{100} = \underline{\pm 1,25\ V}$

b) Valeur réelle $= 36 - 1,25 = \underline{34,75\ V}$

Valeur réelle $= 36 + 1,25 = \underline{37,25\ V}$

№ 13.1.2.1

a) Constante $= \dfrac{500}{25} = 20 \dfrac{V}{div}$

b) lecture $= 20 \cdot 19,2 = 384\ V$

№ 13.1.2.2

a) Constante $= \dfrac{1,5}{30} = 0,05 \dfrac{A}{div} = 50 \dfrac{mA}{div}$

b) lecture $= 0,05 \cdot 22,7 = 1,135\ A$

№ 13.1.2.3

Constante $= \dfrac{600}{50} = 12 \dfrac{V}{div}$

$N = \dfrac{516}{12} = 43\ div.$

№ 13.1.2.4

Constante $= \dfrac{750}{150} = 5 \dfrac{mA}{div}$

$N = \dfrac{436}{5} = 87,2\ div.$

№ 13.1.2.5

a) Constante $= \dfrac{2400}{120} = 20 \dfrac{W}{div}$

b) lecture $= 20 \cdot 94,8 = 1896\ W$

№ 13.1.2.6

Constante $= \dfrac{100}{5} = 20 \dfrac{\Omega}{div}$

Lecture $= 100 + (3,4 \cdot 20) = 168\ \Omega$

№ 13.1.2.7

a) $RL = \dfrac{LND \cdot U}{ND} = \dfrac{32,3 \cdot 250}{50} = 161,5\ V$

b) $CA = \dfrac{U}{ND} = \dfrac{250}{50} = 5 \dfrac{V}{div}$

c) $ND = \dfrac{U}{CA} = \dfrac{100}{2} = 50\ div$

d) $RL = LND \cdot CA = 18 \cdot 2 = \underline{36 \text{ V}}$

e) $CA = \dfrac{u}{ND} = \dfrac{2}{50} = \underline{40 \dfrac{\mu A}{div}}$

f) $RL = CA \cdot LND = 0,00004 \cdot 49,5 = \underline{1,98 \text{ mA}}$

g) $ND = \dfrac{u}{CA} = \dfrac{5}{4,2} = \underline{1,19 \text{ div}}$

h) $RL = 0,1 \cdot 4,2 = CA \cdot LND = \underline{0,42 \text{ mA}}$

i) $CA = \dfrac{u}{ND} = \dfrac{0,00005}{50} = \underline{1 \dfrac{\mu A}{div}}$

k) $RL = CA \cdot LND = 1 \cdot 28,7 = \underline{28,7 \text{ } \mu A}$

l) $ND = \dfrac{u}{CA} = \dfrac{500}{4} = \underline{125 \text{ div}}$

m) $RL = CA \cdot ND = 4 \cdot 83 = \underline{332 \text{ V}}$

n) $ND = \dfrac{u}{CA} = \dfrac{15}{0,5} = \underline{30 \text{ div.}}$

o) $RL = \dfrac{LND \cdot u}{ND} = \dfrac{17 \cdot 15}{30} = \underline{8,5 \text{ A}}$

№ 13.1.3.1

$$R = \frac{\Omega}{U} \cdot V = 50000 \cdot 250 = \underline{\underline{12,5\ M\Omega}}$$

№ 13.1.3.2

$$R = \frac{\Omega}{U} \cdot V = 3300 \cdot 0,06 = \underline{\underline{198\ \Omega}}$$

$$I = \frac{U}{R} = \frac{0,06}{198} = \underline{\underline{303\ \mu A}}$$

№ 13.1.3.3

$$R = \frac{\Omega \cdot U}{V} = \frac{1000 \cdot 6}{1} = 6000\ \Omega$$

a) $\quad I = \frac{U}{R} = \frac{6}{6000} = \underline{\underline{1\ mA}}$

b) $\quad I = \frac{U}{R} = \frac{4,5}{6000} = \underline{\underline{0,75\ mA}}$

№ 13.1.3.4

$$R = \frac{\Omega \cdot U}{V} = \frac{500 \cdot 300}{1} = 150\ k\Omega$$

$$P = \frac{U^2}{R} = \frac{300^2}{150000} = \underline{\underline{0,6\ W}}$$

№ 13.1.3.5

a) $\quad U_{ch} = R \cdot I = 0,003 \cdot 12 = \underline{\underline{36\ mV}}$

b) $\quad P = R \cdot I^2 = 0,003 \cdot 12^2 = \underline{\underline{432\ mW}}$

№ 13.1.3.6

$$R_i = \frac{U}{I} = \frac{0,24}{8} = \underline{\underline{30\ m\Omega}}$$

№ 13.1.3.7

$$P = U \cdot I = 220 \cdot 0,006 = \underline{\underline{1,32\ VA}}$$

№ 13.1.3.8

a) $\quad U = \frac{P}{I} = \frac{4}{6} = \underline{\underline{0,6\overline{6}\ V}}$

b) $\quad R_i = \frac{U}{I} = \frac{0,6\overline{6}}{6} = \underline{\underline{0,11\overline{1}\ \Omega}}$

13. 1.3.8 Suite

e) $P = R \cdot I^2 = 0,11 \cdot 4,52^2 = \underline{2,27 \ W}$

N° 13.1.8. 9

a) $U = R \cdot I = 0,28 \cdot 5 = \underline{1,4 \ V}$

b) $R = \dfrac{U}{I} = \dfrac{240}{0,003} = \underline{80 \ k\Omega}$

c) $P_1 = R \cdot I^2 = 0,28 \cdot 5^2 = 7 \ W$

$P_2 = R \cdot I^2 = 80000 \cdot 0,003^2 = 0,72 \ W$

$P_{tot.} = P_1 + P_2 = 7 + 0,72 = \underline{7,72 \ W}$

№ 13.1.4.1

a) $R_i = \dfrac{U}{I} = \dfrac{0,1}{0,002} = \underline{\underline{50 \ \Omega}}$

$U_{ch} = U - u = 300 - 0,1 = 299,9 \ V$

b) $R_V = \dfrac{U_{ch}}{I} = \dfrac{299,9}{0,002} = \underline{\underline{149,995 \ k\Omega}}$

$I_{R_s} = I - I = 6 - 0,002 = 5,998 \ A$

c) $R_s = \dfrac{u}{I} = \dfrac{0,1}{5,998} = \underline{\underline{16,67 \ m\Omega}}$

№ 13.1.4.2

$I_{max} = \dfrac{U}{R} = \dfrac{0,06}{20} = 0,003 \ A$

$R_t = \dfrac{U}{I} = \dfrac{120}{0,003} = 40 \ k\Omega$

$R_v = R_t - R = 40000 - 20 = \underline{\underline{39,98 \ k\Omega}}$

№ 13.1.4.3

$I_{max} = \dfrac{U}{R} = \dfrac{120}{8000} = 0,015 \ A$

$\Delta U = 300 - 120 = 180 \ V$

$R_x = \dfrac{\Delta U}{I} = \dfrac{180}{0,015} = \underline{\underline{12 \ k\Omega}}$

№ 13.1.4.4

$R = \dfrac{\Omega}{V} \cdot V = \dfrac{600 \cdot 0,06}{1} = 36 \ \Omega$

$I_{max} = \dfrac{U}{R} = \dfrac{0,06}{36} = 1,6667 \ mA$

$\Delta U = U_1 - U = 150 \cdot 0,06 = 149,94 \ V$

$R_v = \dfrac{\Delta U}{I} = \dfrac{149,94}{0,0016667} = \underline{\underline{89,963 \ k\Omega}}$

№ 13.1.4.5

$U = R \cdot I = 100 \cdot 0,001 = 0,1 \ V$

$I = I_1 - I_2 = 12 - 0,001 = 11,999 \ A$

$R = \dfrac{U}{I} = \dfrac{0,1}{11,999} = \underline{\underline{8,334 \ m\Omega}}$

№ 13.1.4.6

$$U = R \cdot I = 0,04 \cdot 10 = 0,4 \text{ V}$$

$$I = I_1 - I = 100 - 10 = 90 \text{ A}$$

$$R = \frac{U}{I} = \frac{0,4}{90} = \underline{\underline{4,444 \text{ m}\Omega}}$$

№ 13.1.4.7

a) $U = U \text{ ampèremètre} = \underline{\underline{300 \text{ mV}}}$

b) $R_i = \frac{U}{I} = \frac{0,3}{6} = \underline{\underline{50 \text{ m}\Omega}}$

$$I = I_1 - I = 120 - 6 = 114 \text{ A}$$

c) $R = \frac{U}{I} = \frac{0,3}{114} = \underline{\underline{2,63 \text{ m}\Omega}}$

№ 13.1.4.8

$$I = \frac{5 \cdot 82}{100} = \underline{\underline{4,1 \text{ A}}}$$

№ 13.1.4.9

$$U = \frac{P}{I} = \frac{15}{5} = 3 \text{ V}$$

$$Z = \frac{U}{I} = \frac{3}{5} = \underline{\underline{0,6 \ \Omega}}$$

№ 13.1.5.1

$U_{ch} = R \cdot I = 1 \cdot 0{,}11 = 0{,}11\,V$

$U_{tot} = U + U_{ch} = 250 + 0{,}11 = 250{,}11\,V$

$R_e = \dfrac{U}{I} = \dfrac{250}{0{,}11} = 2272{,}7273\,\Omega$

$R_2 = \dfrac{R_e \cdot R_1}{R_1 - R_e} = \dfrac{2272{,}7 \cdot 25000}{25000 - 2272{,}7} = 2500\,\Omega$

$R_t = R + R = 2500 + 1 = 2501\,\Omega$

$I = \dfrac{U}{R} = \dfrac{250{,}11}{2501} = \underline{\underline{100{,}004\,mA}}$

№ 13.1.5.2

$I = \dfrac{U}{R} = \dfrac{625}{100} = \underline{\underline{6{,}25\,A}}$

№ 13.1.5.3

$R_e = \dfrac{1}{\dfrac{1}{R_1} + \dfrac{1}{R_2}} = \dfrac{1}{\dfrac{1}{40} + \dfrac{1}{1000}} = 38{,}4615\,\Omega$

$I = \dfrac{U}{R} = \dfrac{120}{38{,}46} = 3{,}12\,A$

$U_{ch} = R \cdot I = 0{,}05 \cdot 3{,}12 = 0{,}156\,V$

$U = U + U_{ch} = 120 + 0{,}156 = \underline{\underline{120{,}156\,V}}$

№ 13.1.5.4

$R_i = \dfrac{\Omega}{V} \cdot V = \dfrac{1{,}6\overline{6}}{1} \cdot 300 = 500\,k\Omega$

$I = \dfrac{U}{R} = \dfrac{240}{500000} = 48\,\mu A$

a) $R = \dfrac{U}{I} = \dfrac{240}{0{,}025} = \underline{\underline{9{,}6\,k\Omega}}$

$I_R = I_1 - I = 0{,}025 - 0{,}00048 = 0{,}02452\,A = 24{,}52\,mA$

b) $R = \dfrac{U}{I} = \dfrac{240}{0{,}02452} = \underline{\underline{9788\,k\Omega}}$

$Erreur = 9788 - 9600 = 188\,\Omega$

c) $\% = \dfrac{188 \cdot 100}{9788} = \underline{\underline{1{,}92\,\%}}$

№ 13.1.5.5

$U_{ch} = R \cdot I = 1,2 \cdot 0,12 = 0,144 \; V$

a) $R = \dfrac{U}{I} = \dfrac{6,8}{0,12} = \underline{\underline{56,66 \; \Omega}}$

$U_{2} = U - U_{ch} = 6,8 - 0,144 = 6,656 \; V$

b) $R_{2} = \dfrac{U}{I} = \dfrac{6,656}{0,12} = \underline{\underline{55,46 \; \Omega}}$

$\Delta R = R_{1} - R_{2} = 56,66 - 55,46 = 1,2 \; \Omega$

c) $Erreur \; \% = \dfrac{1,2 \cdot 100}{55,46} = \underline{\underline{2,163 \; \%}}$

N° 13.1.6.1

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{3 \cdot 3600}{600 \cdot 12} = \underline{1,5 \ kW} \qquad \text{Attention réponse en } kW$$

N° 13.1.6.2

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{32 \cdot 3600}{1200 \cdot 60} = \underline{1,6 \ kW}$$

N° 13.1.6.3

$$Q = \frac{n \cdot 3600}{c \cdot t} = \frac{13 \cdot 3600}{15 \cdot 32,4} = \underline{96,296 \ kvar}$$

N° 13.1.6.4

$$P = \frac{n \cdot 3600}{c \cdot t} \Rightarrow n = \frac{P \cdot c \cdot t}{3600} = \frac{0,75 \cdot 1200 \cdot 60}{3600} = \underline{15 \ tours}$$

N° 13.1.6.5

$$t = \frac{n \cdot 3600}{P \cdot c} = \frac{18 \cdot 3600}{2,4 \cdot 300} = \underline{90 \ S}$$

N° 13.1.6.6

$$C = \frac{n \cdot 3600}{P \cdot t} = \frac{15 \cdot 3600}{7,2 \cdot 12,5} = \underline{600 \ tr/kWh}$$

N° 13.1.6.7

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{9 \cdot 3600}{500 \cdot 65,5} = 0,989 \ kW = \underline{989 \ W}$$

N° 13.1.6.8

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{45 \cdot 3600}{4500 \cdot 60} = \underline{600 \ W}$$

N° 13.1.6.9

$$Q = \frac{n \cdot 3600}{c \cdot t} = \frac{25 \cdot 3600}{750 \cdot 98} = \underline{1,224 \ kvar}$$

N° 13.1.6.10

$$n = \frac{P \cdot c \cdot t}{3600} = \frac{12 \cdot 120 \cdot 60}{3600} = \underline{24 \ tours}$$

N° 13.1.6.11

$$t = \frac{n \cdot 3600}{P \cdot c} = \frac{10 \cdot 3600}{0,4 \cdot 2800} = \underline{32,14 \ S}$$

N° 13.1.6.12/

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{3 \cdot 3600}{800 \cdot 46,4} = \underline{290 \ W}$$

N° 13.1.6.13

$$P = U \cdot I \cdot \cos\varphi = 220 \cdot 3,85 \cdot 0,85 = 719,95 \ W = 0,719 \ kW$$

$$n = \frac{P \cdot C \cdot t}{3600} = \frac{0,719 \cdot 1800 \cdot 60}{3600} = \underline{21,6 \ tours}$$

N° 13.1.6.14

$$t = \frac{n \cdot 3600}{P \cdot C} = \frac{50 \cdot 3600}{4,5 \cdot 750} = \underline{53,33 \ S}$$

N° 13.1.6.15

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{16 \cdot 3600}{0,175 \cdot 18,7} = \underline{17,6 \ MW}$$

N° 13.1.6.16

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{51 \cdot 3600}{17,5 \cdot 32,8} = \underline{319,86 \ kW}$$

N° 13.1.6.17

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{51 \cdot 3600}{0,0666 \cdot 75} = \underline{36,756 \ MW}$$

N° 13.1.6.18

$$S = U \cdot I = 225 \cdot 6,4 = \underline{1440 \ VA}$$

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{52 \cdot 3600}{3600 \cdot 60} = \underline{866,66 \ W}$$

$$\cos\varphi = \frac{P}{S} = \frac{866,66}{1440} = \underline{0,6}$$

$$Q = \sqrt{S^2 - P^2} = \sqrt{1440^2 - 866,66^2} = \underline{1150 \ Var}$$

N° 13.1.6.19

$$Rapport \ U = \frac{16000}{220} = 72,72 \qquad Rapp. \ I = \frac{100}{5} = 20$$

$$Facteur = Rapp. \ U \cdot Rapp. \ I = 72,72 \cdot 20 = \underline{1454,54 \ fois}$$
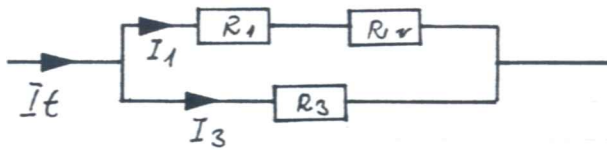
N° 13.1.6.20

$$S = U \cdot I = 221 \cdot 1,5 = \underline{331,5 \ VA}$$

$$P = \frac{n \cdot 3600}{c \cdot t} = \frac{13 \cdot 3600}{1900 \cdot 120} = \underline{205,26 \ W}$$

$$\cos\varphi = \frac{P}{S} = \frac{205,26}{331,5} = \underline{0,62}$$

<u>N° 13.2.1</u>

$R_i = \dfrac{R}{n} = \dfrac{8,4}{2} = \underline{\underline{4,2 \; m\,\Omega}}$

<u>N° 13.2.2</u>

$It = I_1 + I_3$

$I_3 = 2 \cdot I_1 \qquad car \; R_3 = \dfrac{1}{2} \; de \; R_1 + R_2 \; !$

$je \; suppose : \quad I_3 = 2A \quad et \quad I_1 = 1A$

$U = R_e \cdot It = 4,3 \cdot 3 = 12,9 \; V$

$R_3 = R_2 = R_1 = \dfrac{U}{I_3} = \dfrac{12,9}{2} = \underline{\underline{6,45 \; \Omega}}$

Preuve

$Re = \dfrac{1}{\dfrac{1}{R_1 + R_2} + \dfrac{1}{R_3}} = \dfrac{1}{\dfrac{1}{6,45+6,45} + \dfrac{1}{6,45}} = 4,3 \; \Omega$

<u>N° 13.2.3</u>

$R_i = \dfrac{R}{N} = \dfrac{18}{2} = \underline{\underline{9 \; \Omega}}$

<u>N° 13.2.4</u>

Idem $\quad N° \; 13.2.2$

$It = I_1 + I_3$

$I_3 = 2 \cdot I_1$

$je \; suppose : \; I_3 = 8A \quad et \quad I_1 = 4A \; \Rightarrow \; It = 8+4 = 12A$

$U = Re \cdot It = 0,654 \cdot 12 \; A = 7,848 \; V$

$R_1 = R_2 = R_3 = \dfrac{U}{I_3} = \dfrac{7,848}{8} = \underline{\underline{0,981 \; \Omega}}$

<u>N° 13.2.5</u>

Idem $\quad N° \; 13.2.2$

$Itot = I_1 + I_3$

13. 2. 5. Suite

$I_3 = 2 \cdot I_1$

$I_{tot} = 3 \cdot I_1$ $\qquad$ $I_1 = \dfrac{I_{tot}}{3} = \dfrac{1.2}{3} = 0.4\ A$

$I_3 = 2 \cdot I_1 = 2 \cdot 0.4 = 0.8\ A$

$R = \dfrac{U}{I} = \dfrac{1.5}{0.8} = \underline{\underline{1.875\ \Omega}}$

___

N° 13. 2. 6

a) $R = \dfrac{R}{N} = \dfrac{16.1}{2} = \underline{\underline{8.05\ \Omega}}$

b) $R_e = \dfrac{1}{\dfrac{1}{R_1 + R_2} + \dfrac{1}{R_3}} = \dfrac{1}{\dfrac{1}{8.05 + 8.05} + \dfrac{1}{8.05}} = \underline{\underline{5.36\ \Omega}}$

___

N° 13. 2. 7

$R = \dfrac{U}{I} = \dfrac{4.5}{0.083} = 54.22\ \Omega$

$R_1 = \dfrac{R}{n} = \dfrac{54.22}{2} = \underline{\underline{27.11\ \Omega}}$

___

N° 13. 3. 1. 1

$N_2 \cdot U_1 = N_1 \cdot U_2 \Rightarrow N_2 = \dfrac{N_1 \cdot U_2}{U_1} = \dfrac{2500 \cdot 6}{220} = \underline{\underline{68\ sp.}}$

___

N° 13. 3. 1. 2

$N_2 \cdot U_1 = N_1 \cdot U_2 \Rightarrow N_1 = \dfrac{N_2 \cdot U_1}{U_2} = \dfrac{128 \cdot 230}{38} = \underline{\underline{775\ sp.}}$

___

N° 13. 3. 1. 3

$I = \dfrac{S}{U} = \dfrac{400}{220} = \underline{\underline{1.81\ A}}$

___

N° 13. 3. 1. 4

b) $S = U \cdot I = 220 \cdot 0.91 = \underline{\underline{200.2\ VA}}$

a) $I = \dfrac{S}{U} = \dfrac{200.2}{24} = \underline{\underline{8.342\ A}}$

___

N° 13. 3. 1. 5

b) $N_1 = \dfrac{N_2 \cdot U_1}{U_2} = \dfrac{720 \cdot 520}{220} = \underline{\underline{1702\ sp}}$

$S = U \cdot I = 220 \cdot 0.6 = 132\ VA$

13. 3. 1. 8 Suite

c) $N_2 = \dfrac{U_2 \cdot N_1}{U_1} = \dfrac{4 \cdot 2640}{220} = \underline{\underline{48 \, sp}}$

$\quad \text{''} \qquad = \dfrac{6 \cdot 2640}{220} = \underline{\underline{72 \, sp}}$

$\quad \text{''} \qquad = \dfrac{10 \cdot 2640}{220} = \underline{\underline{120 \, sp}}$

№ 13.3.1.9

a) $N_2 = \dfrac{N_1}{2,3} = \dfrac{580}{2,3} = \underline{\underline{252 \, sp}}$

b) $U_2 = \dfrac{U_1 \cdot N_2}{N_1} = \dfrac{520 \cdot 252}{580} = \underline{\underline{225,93 \, V}}$

c) $I = \dfrac{S}{U} = \dfrac{1000}{225,93} = \underline{\underline{4,42 \, A}}$

№ 13.3.1.10

$N_2 = \dfrac{U_2 \cdot N_1}{U_1} = \dfrac{145 \cdot 480}{230} = \underline{\underline{302 \, sp.}}$

13.3.1.5 Suite

a) $\bar{I} = \dfrac{S}{U} = \dfrac{132}{520} = \underline{\underline{0,254\,A}}$

Nº 13.3.1.6

a) $N_2 = \dfrac{N_1 \cdot U_2}{U_1} = \dfrac{1250 \cdot 36}{225} = \underline{\underline{200\ sp.}}$

b) $I = \dfrac{S}{U} = \dfrac{370}{225} = \underline{\underline{1,6\overline{4}\,A}}$

c) $I = \dfrac{S}{U} = \dfrac{370}{36} = \underline{\underline{10,277\,A}}$

d) $Rapport = \dfrac{N_1}{N_2} = \dfrac{1250}{200} = \underline{\underline{6,25 : 1}}$

Nº 13.3.1.7

a) $S = U \cdot I = 220 \cdot 14 = \underline{\underline{3080\ VA}}$

b) $S \ de \ S\ 100\% = \underline{\underline{3080\ VA}}$

c) $U_2 = \dfrac{U_1}{Rap} = \dfrac{220}{5,2} = \underline{\underline{42,31\,V}}$

d) $I = \dfrac{S}{U} = \dfrac{3080}{42,31} = \underline{\underline{72,8\,A}}$

Nº 13.3.1.8

a) $N_1 = \dfrac{U_1 \cdot N_2}{U_2} = \dfrac{210 \cdot 120}{10} = \underline{\underline{2520\ sp.}}$

$'' \qquad = \dfrac{220 \cdot 120}{10} = \underline{\underline{2640\ sp.}}$

$'' \qquad = \dfrac{230 \cdot 120}{10} = \underline{\underline{2760\ sp}}$

$S = U \cdot I = 4 \cdot 1 = 4\ VA$

$'' \qquad = 6 \cdot 1 = 6\ VA$

$'' \qquad = 10 \cdot 10 = 10\ VA$

b) $I = \dfrac{S}{U} = \dfrac{4}{220} = \underline{\underline{18,\overline{18}\ mA}}$

$'' \qquad = \dfrac{6}{220} = \underline{\underline{27,27\ mA}}$

$'' \qquad = \dfrac{10}{220} = \underline{\underline{45,45\ mA}}$