

2.

$$I = 7 \text{ A}$$

$$l = 8 \text{ m}$$

$$U_L = \frac{2 \times l \times I}{\gamma \times A}$$

$$A = 0,75 \text{ mm}^2$$

$$\underline{U_L = 2,66 \text{ V}}$$

$$U_L = 2,66 \text{ V}$$

3.

$$l = 50 \text{ m}$$

$$I = \frac{U_L \times \gamma \times A}{2 \times l}$$

$$A = 4 \text{ mm}^2$$

$$\underline{I = 26,88 \text{ A}}$$

$$U_A = 230 \text{ V}$$

$$\underline{U_L = 12 \text{ V}}$$

$$I = 26,88 \text{ A}$$

4.

$$l = 12 \text{ m}$$

$$U_L = \frac{2 \times l \times I}{\gamma \times A}$$

$$A = 1,5 \text{ mm}^2$$

$$\underline{U_L = 3,14 \text{ V}}$$

$$I = 11 \text{ A}$$

$$230 \text{ V} \quad \begin{array}{l} \diagdown \\ \diagup \end{array} \quad \begin{array}{l} 100 \% \\ x \% \end{array}$$

$$\underline{U_A = 230 \text{ V}}$$

$$\underline{3,14 \text{ V}} \quad \begin{array}{l} \diagup \\ \diagdown \end{array} \quad \begin{array}{l} 100 \% \\ x \% \end{array}$$

$$U_L = 3,14 \text{ V}$$

$$\underline{x = 1,365 \%}$$

$$\% = 1,365$$

5.

$$l = 55 \text{ m}$$

$$U_L = 3,45 \text{ V}$$

$$A = 1,5 \text{ mm}^2$$

$$I = \frac{U_L \times \gamma \times A}{2 \times l}$$

$$U_A = 230 \text{ V}$$

$$\underline{I = 2,63 \text{ A}}$$

$$\underline{U_L = 1,5 \% \text{ von } 230 \text{ V}}$$

$$U_L = 3,45 \text{ V}$$

$$I = 2,63 \text{ A}$$

6.

$$A = 2,5 \text{ mm}^2$$

$$U_L = 3,45 \text{ V}$$

$$I = 15 \text{ A}$$

$$l = \frac{U_L \times \gamma \times A}{2 \times I}$$

$$\underline{U_L = 1,5 \% \text{ von } 230 \text{ V}}$$

$$\underline{l = 16,1 \text{ m}}$$

$$l = 16,1 \text{ m}$$

7.

$$A = 1 \text{ mm}^2$$

$$U_L = U_A - U_E$$

$$l = \frac{U_L \times \gamma \times A}{2 \times I}$$

$$U_A = 232 \text{ V}$$

$$U_L = 4,5 \text{ V}$$

$$\underline{l = 50,4 \text{ m}}$$

$$U_E = 227,5 \text{ V}$$

$$\underline{l = 2,5 \text{ A}}$$

$$l = 50,4 \text{ m}$$

8.

$$I = 9 \text{ A}$$

$$U_L = \frac{2 \times l \times I}{\gamma \times A}$$

$$l = 25 \text{ m}$$

$$\underline{U_L = 5,36 \text{ V}}$$

$$A = 1,5 \text{ mm}^2$$

$$U_E = U_A - U_L$$

$$\underline{U_A = 230 \text{ V}}$$

$$\underline{U_E = 224,64 \text{ V}}$$

$$U_L = 5,36 \text{ V}$$

$$U_E = 224,64 \text{ V}$$

9.

$$I = 5 \text{ A}$$

$$U_L = \frac{2 \times l \times I}{\gamma \times A}$$

$$U_A = U_E + U_L$$

$$U_E = 230 \text{ V}$$

$$\underline{U_L = 4,64 \text{ V}}$$

$$\underline{U_A = 234,64 \text{ V}}$$

$$A = 2,5 \text{ mm}^2$$

$$\underline{l = 65 \text{ m}}$$

$$U_1 = 234,64 \text{ V}$$
