

Ind H0:

$$l = 2,5 \text{ km}$$

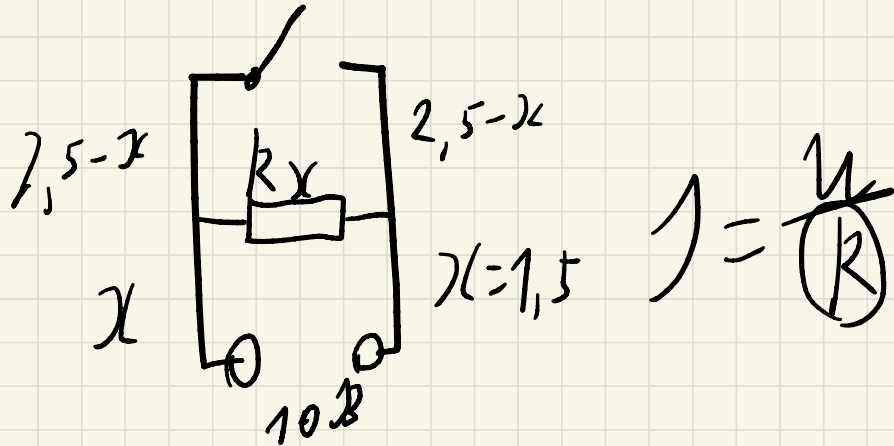
$$W = 10 \text{ B}$$

$$I_1 = 2 \text{ A}$$

$$I_2 = 2,5 \text{ A}$$

$$R_{\text{eq.}} = 1 \frac{\text{Ohm}}{\text{km}}$$

$$R_x = ?, x = ?$$



$$b) R = \frac{W}{I}$$

$$\Rightarrow 2x + R_x = \frac{10}{2} = 5 \text{ Ohm}$$

$$c) \frac{R_x (2,5 - x) 2}{R_x + (2,5 - x) 2} + 2x = \frac{10}{2,5} = 4 \text{ Ohm}$$

$$K_x (2,5-x)^2 = (K_x + (2,5-x)^2) (4-2x)$$

$$5K_x - 2xK_x = (K_x + 5 - 2x) (4-2x)$$

$$5K_x - 2xK_x = 4K_x + 20 - 8x - 10x + 4x^2$$

$$K_x = 20 - 8x - 10x + 4x^2$$

$$K_x = 20 - 18x + 4x^2$$

$$\underline{K_x = 5 - 2x} \leftarrow$$

$$5 - 2x = 20 - 18x + 4x^2$$

$$4x^2 - 16x + 15 = 0$$

$$x = 1,5 \text{ und } 2,5$$

$$R_x = 5 - 2 \cdot 1,5 = 2 \text{ km,}$$

$$x = 1,5 \text{ km}$$