



LPR Cup

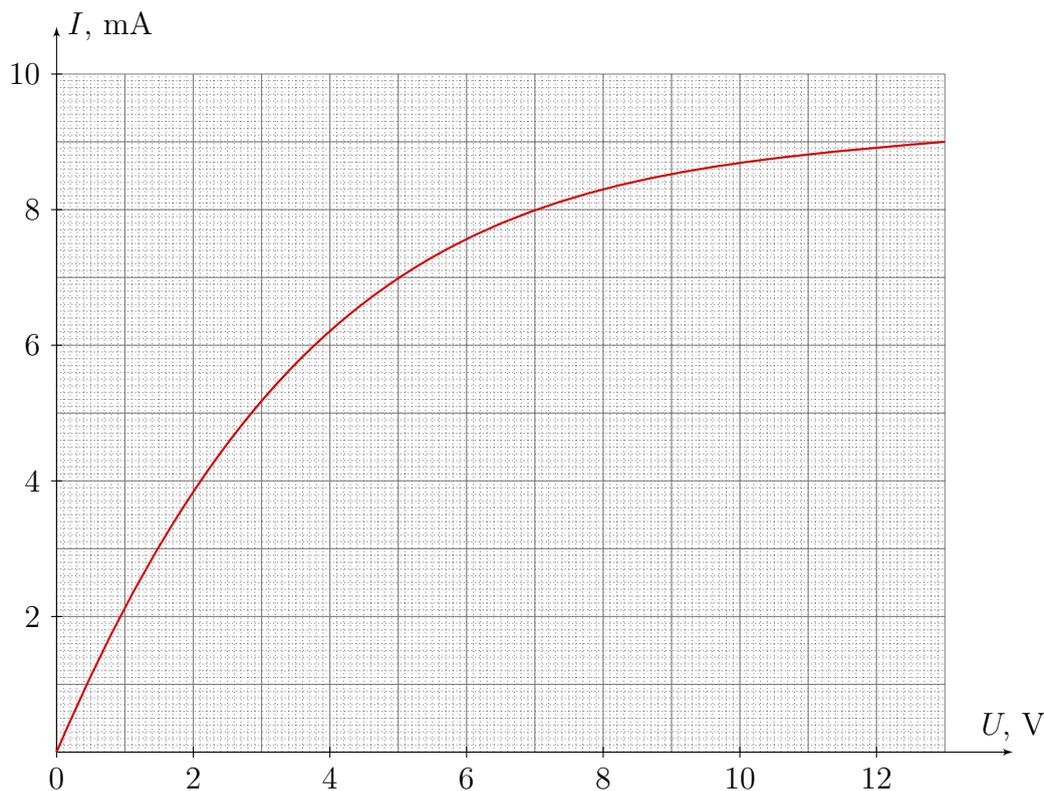
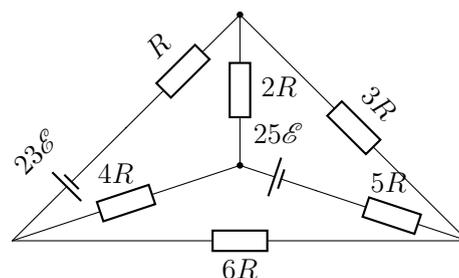
9.s02.e04



*Phil: Do you ever have déjà vu, Mrs. Lancaster?
Mrs. Lancaster: I don't think so, but I could check with the kitchen.
Groundhog Day (1993)*

Deja vu

The electrical circuit consists of two ideal batteries with EMF $23\mathcal{E}$ and $25\mathcal{E}$, and six resistors with known resistances (see fig.). A nonlinear element (later called NE) is connected to one of the branches of the circuit in series with a resistor of resistance R , and the current through it turns out to be 7 mA . Determine the current through the NE when it is connected to another branch of the circuit in series with a $5R$ resistor. The volt-ampere characteristic of the NE is also shown in the figure. $\mathcal{E} = 0,4\text{ V}$.



First hint — 24.05.2021 14:00 (GMT+3)

Second hint — 26.05.2021 14:00 (GMT+3)

End of the fourth tour — 28.05.2021 22:00 (GMT+3)