

Tressfysikk – Løsning oppgave 12.32

$$E = P \cdot t$$

$$P = I^2 \cdot R = 8,0^2 \cdot 30 [A^2 \cdot \Omega] = 1920 [W]$$

$$\text{a) } t = \frac{E}{P} = \frac{552 [kJ]}{1,92 [kW]} = 287,5 [s]$$

$$287,5 \text{ s} = 4 \text{ min } 48 \text{ s}$$

b)

$$P = I^2 \cdot R = 4,0^2 \cdot 30 [A^2 \cdot \Omega] = 480 [W]$$

$$t = \frac{E}{P_2} = \frac{552 [kJ]}{0,48 [kW]} = 1150 [s]$$

$$1150 \text{ s} = 19 \text{ min } 10 \text{ s}$$