1

▶ $R = 25$

2

$C = 750 \cdot 10^{-6}$

$= \boxed{0.00075}$

3

▶ $V_0 = 450$

4

▶ $C_t = 28.5$

5

$\tau = R \cdot C$

6

$V(t) = V_0 \cdot e^{-\frac{t}{\tau}}$

7

$I(t) = V(t)/R$

8

$P(t) = I(t)^2 \cdot R$

9

$T(t) = 30 + \int_0^t (P(x)/C_t)dx$

10