solve for t, 
$$V_{spec} = C \cdot V \cdot \frac{\left(1 - e^{-\frac{t}{R \cdot C}}\right)}{C}$$

solve for 
$$t$$
,  $V_{spec} = c \cdot V \cdot \frac{\left(1 - e^{-\frac{t}{R \cdot c}}\right)}{c}$ 

Solution

$$t = -cR\ln\left(-\frac{V_{spec} - V}{V}\right)$$