

EE 220

$CV=Q$
 $I=C \frac{dV}{dt}$

$V = \frac{1}{C} \int I \cdot dt$

Study

Circuits

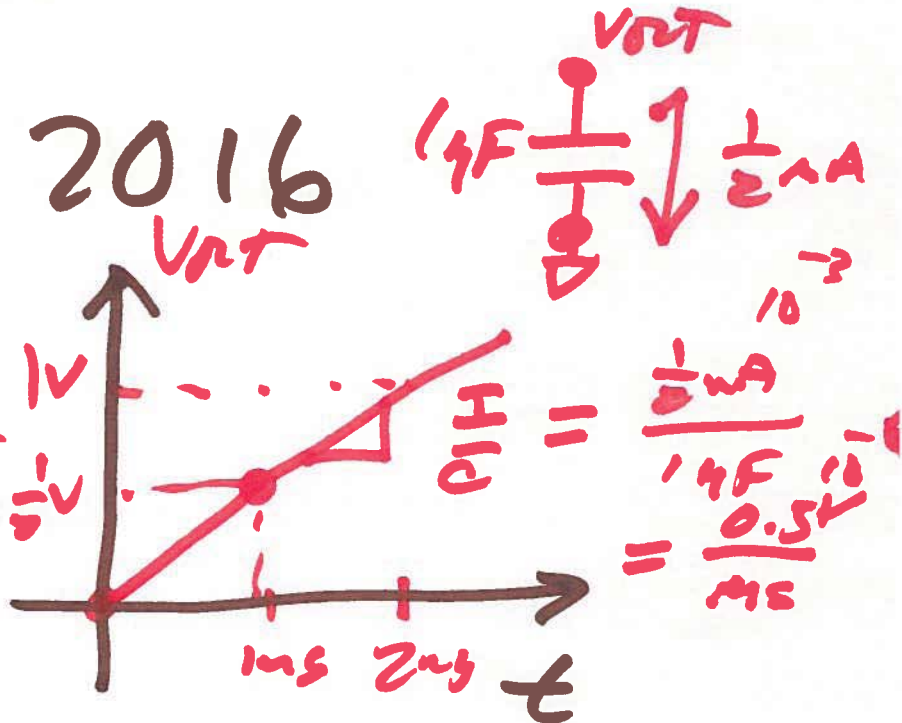
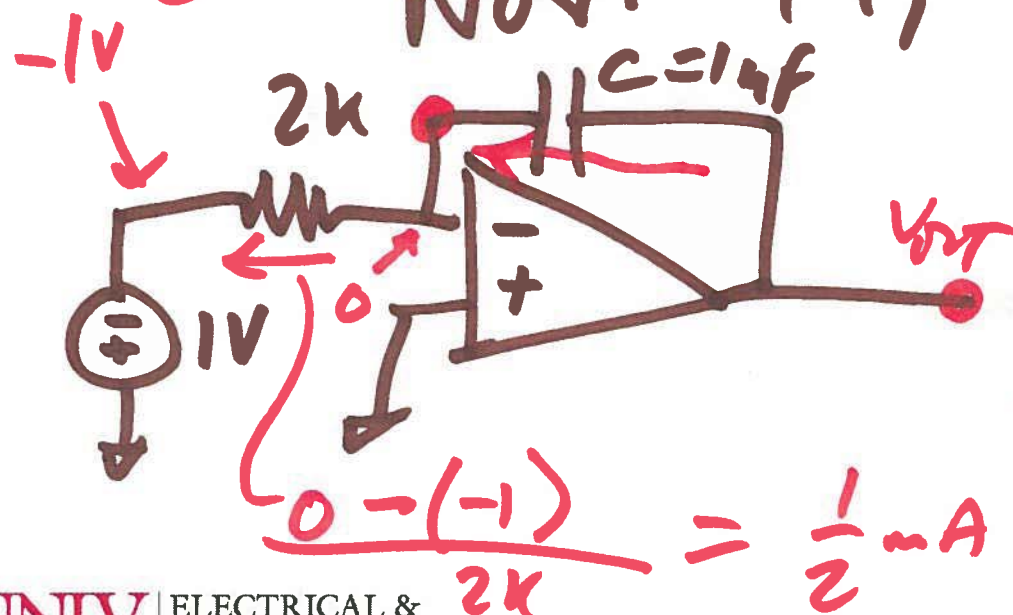
session

$\frac{1/2 \text{ mA}}{14 \text{ F}} = \frac{1/2 \cdot 10^{-3} \cdot 10^3}{1 \cdot 10^6 \cdot 10^{-3}}$

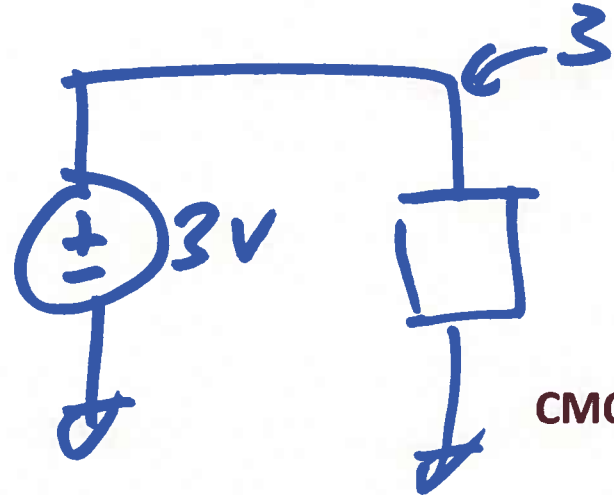
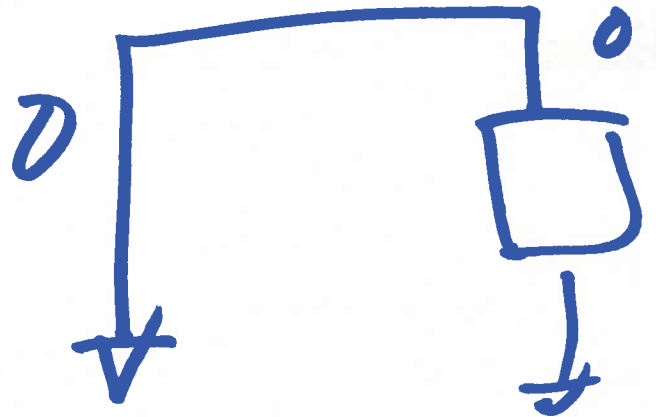
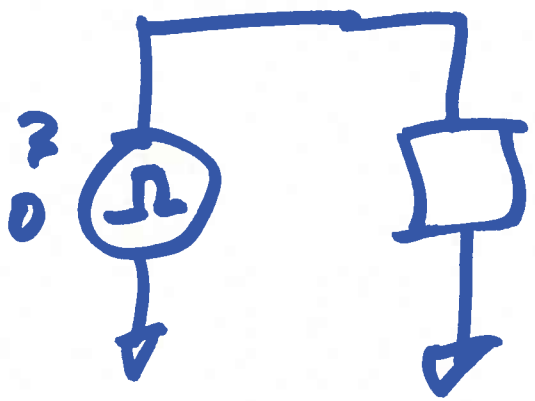
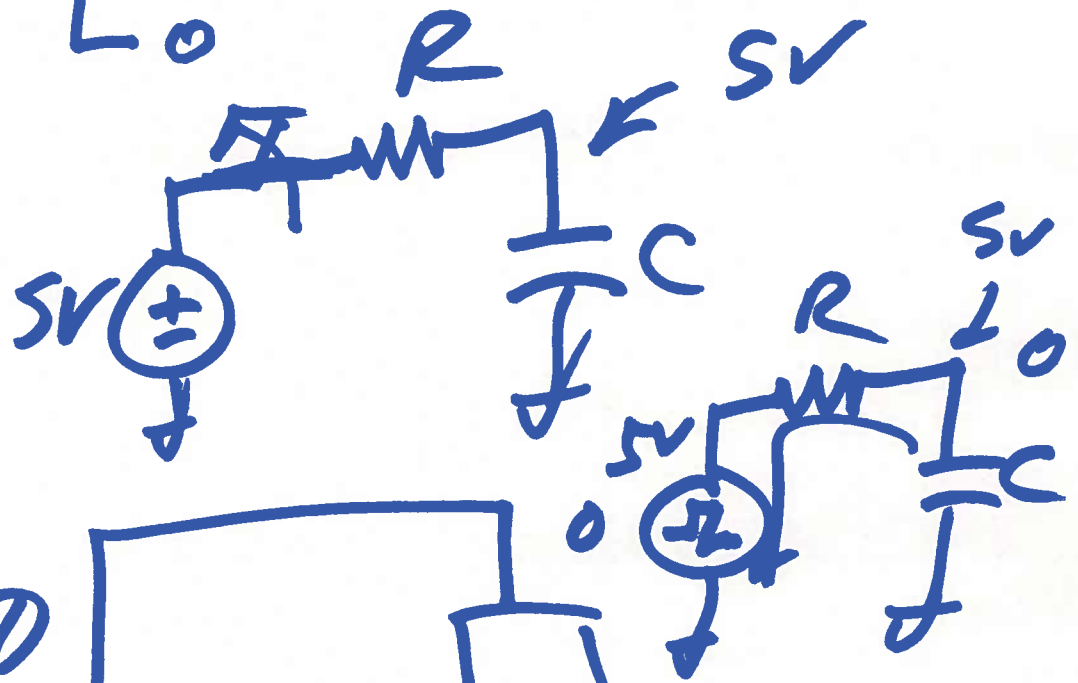
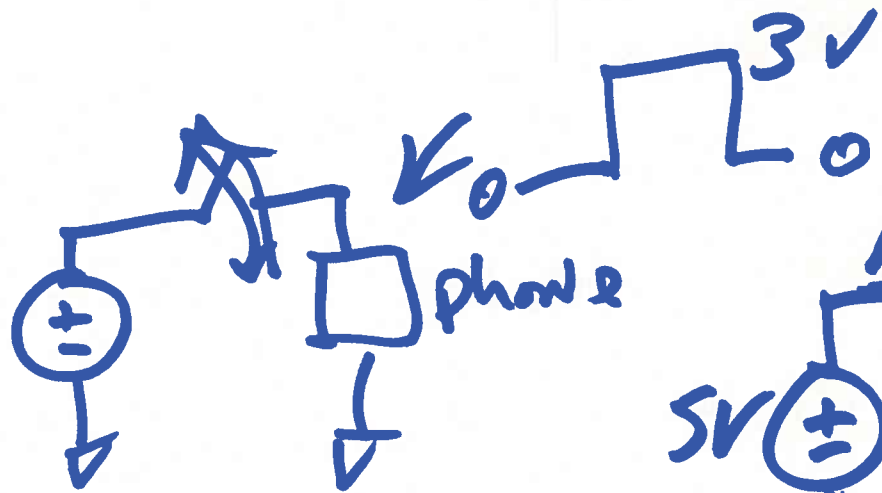
$= \frac{1/2 \text{ V}}{\text{ms}}$

$V_{out}(t) = \frac{I}{C} \cdot t$

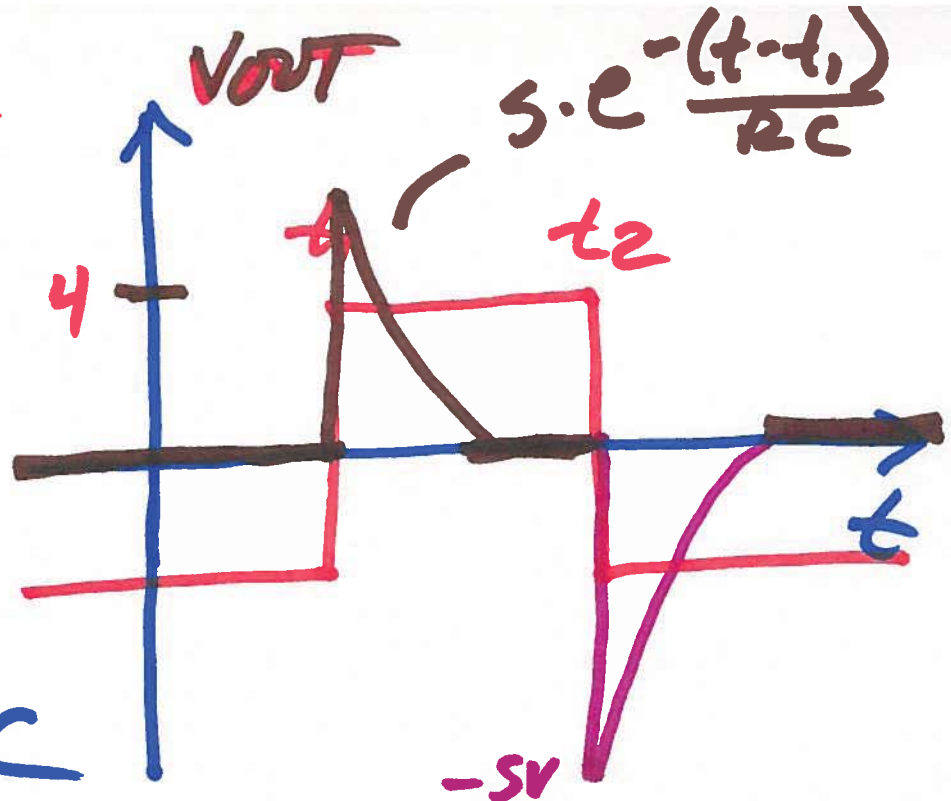
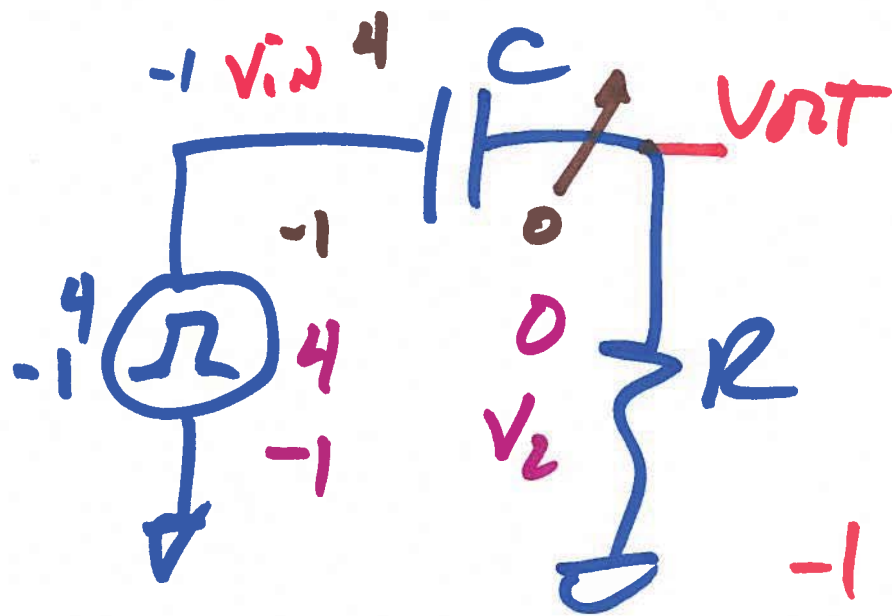
NOV. 19, 2016



1)



2)



Time period $\gg RC$

$$(-1 - 0) = -1V$$

$$(4 - V_1) = -1V$$

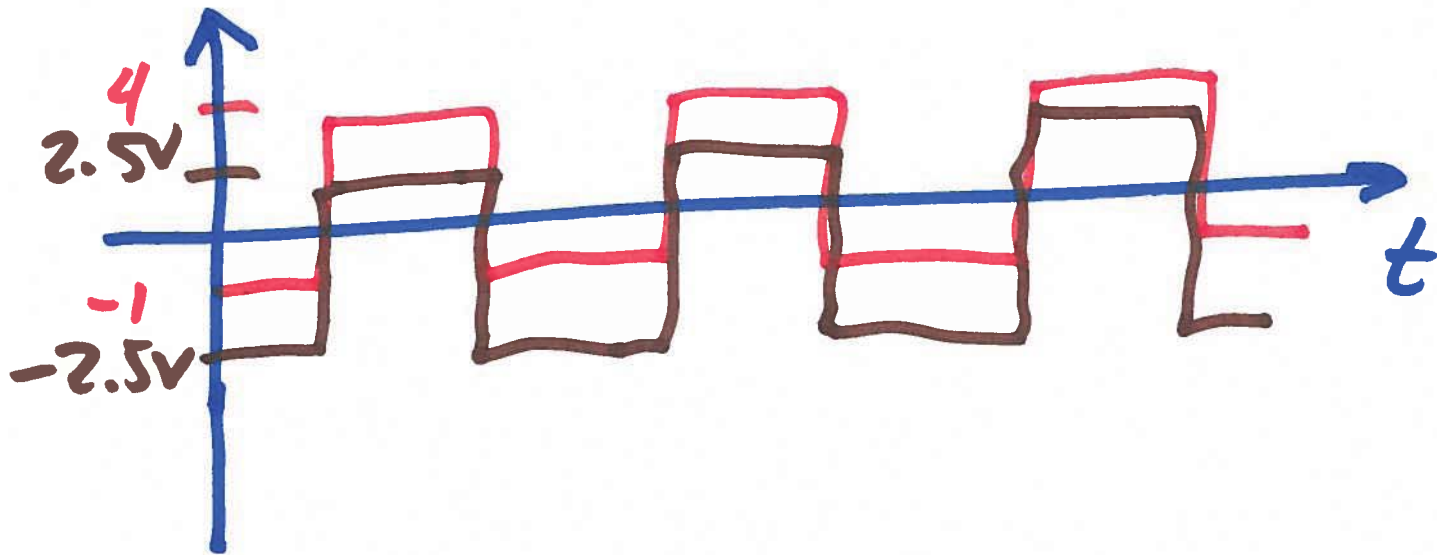
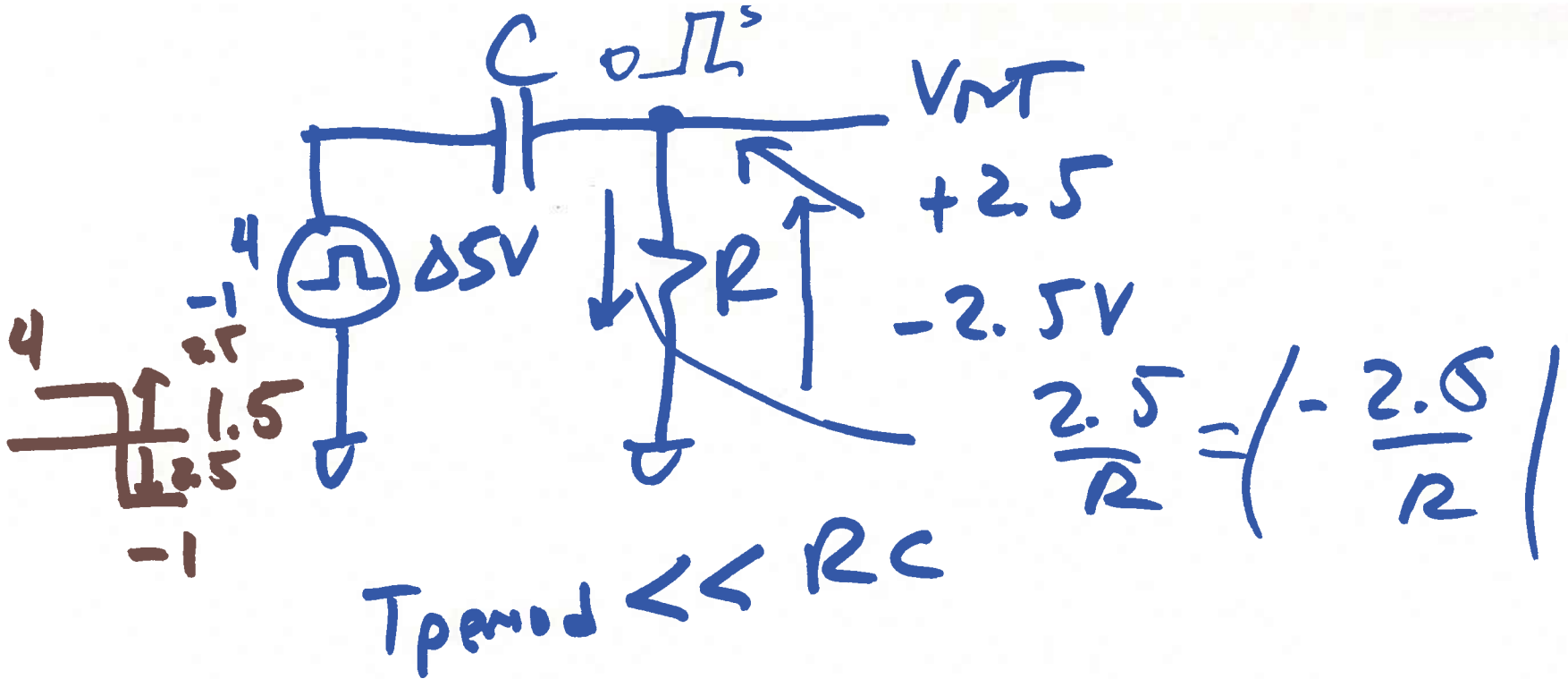
V_1

$$4 - 0 = 4$$

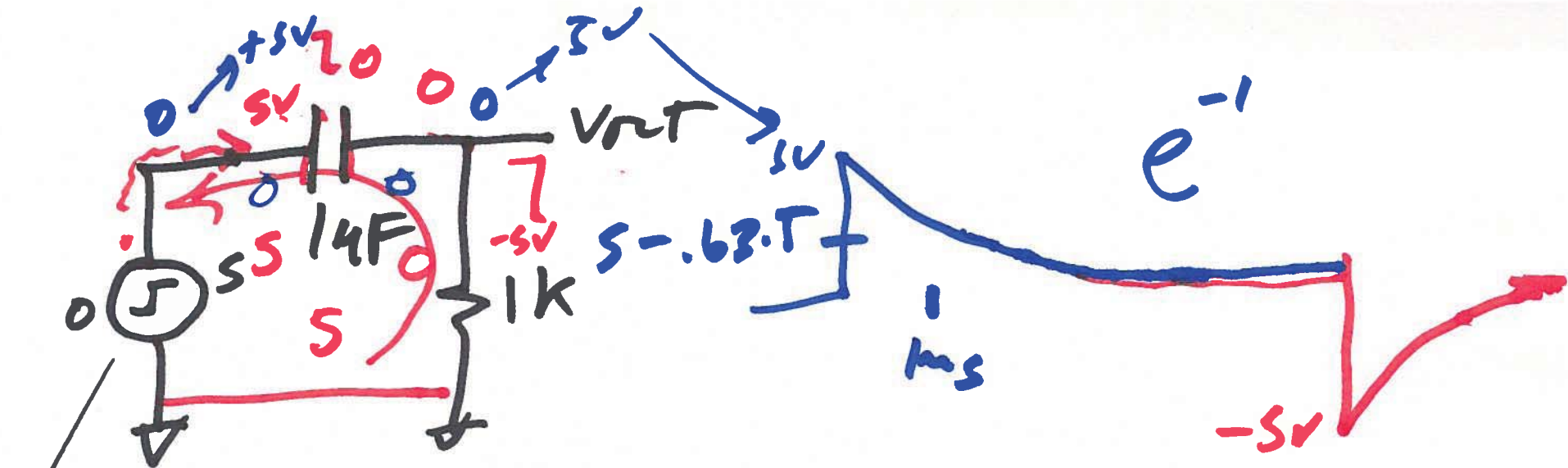
$$-1 - V_2 = 4$$

$$V_2 = -5V$$

3)



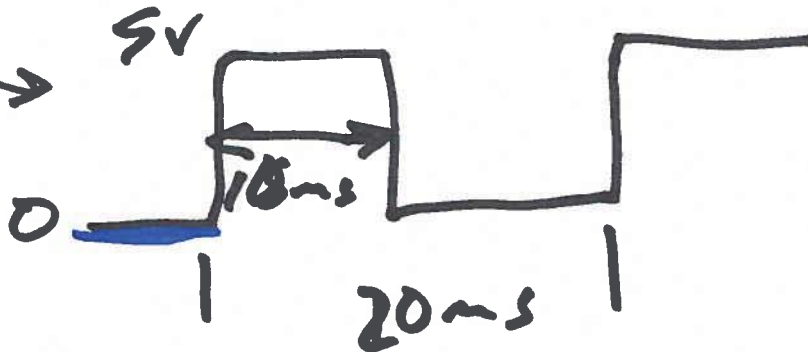
4)



$$\tau = RC = 1ms$$

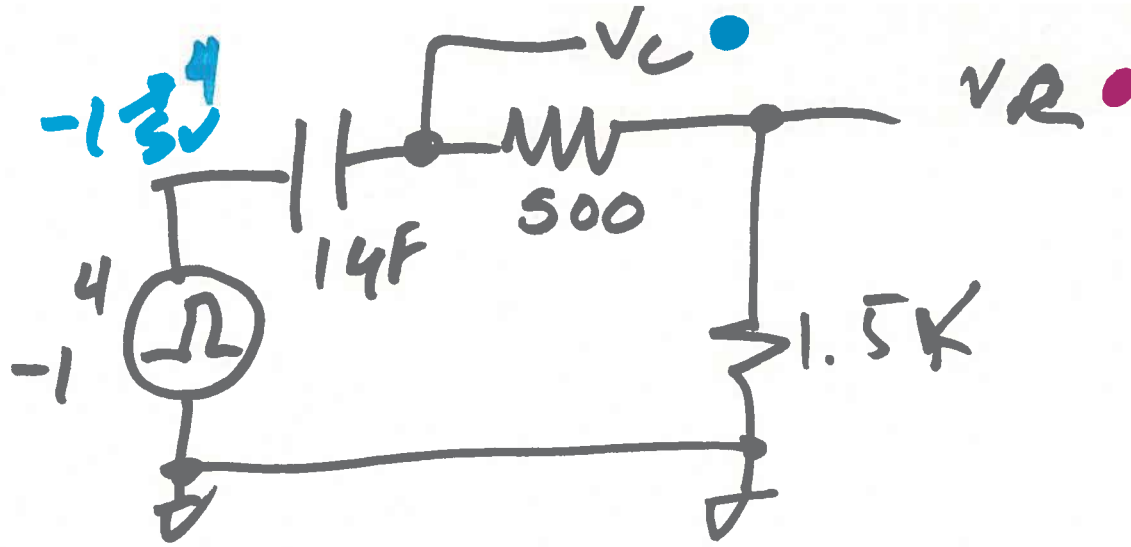
$$0 - V_x = 5V$$

$$V_x = -5V$$



$$5 - 0 = 5$$

$$0 - (-5) = 5$$

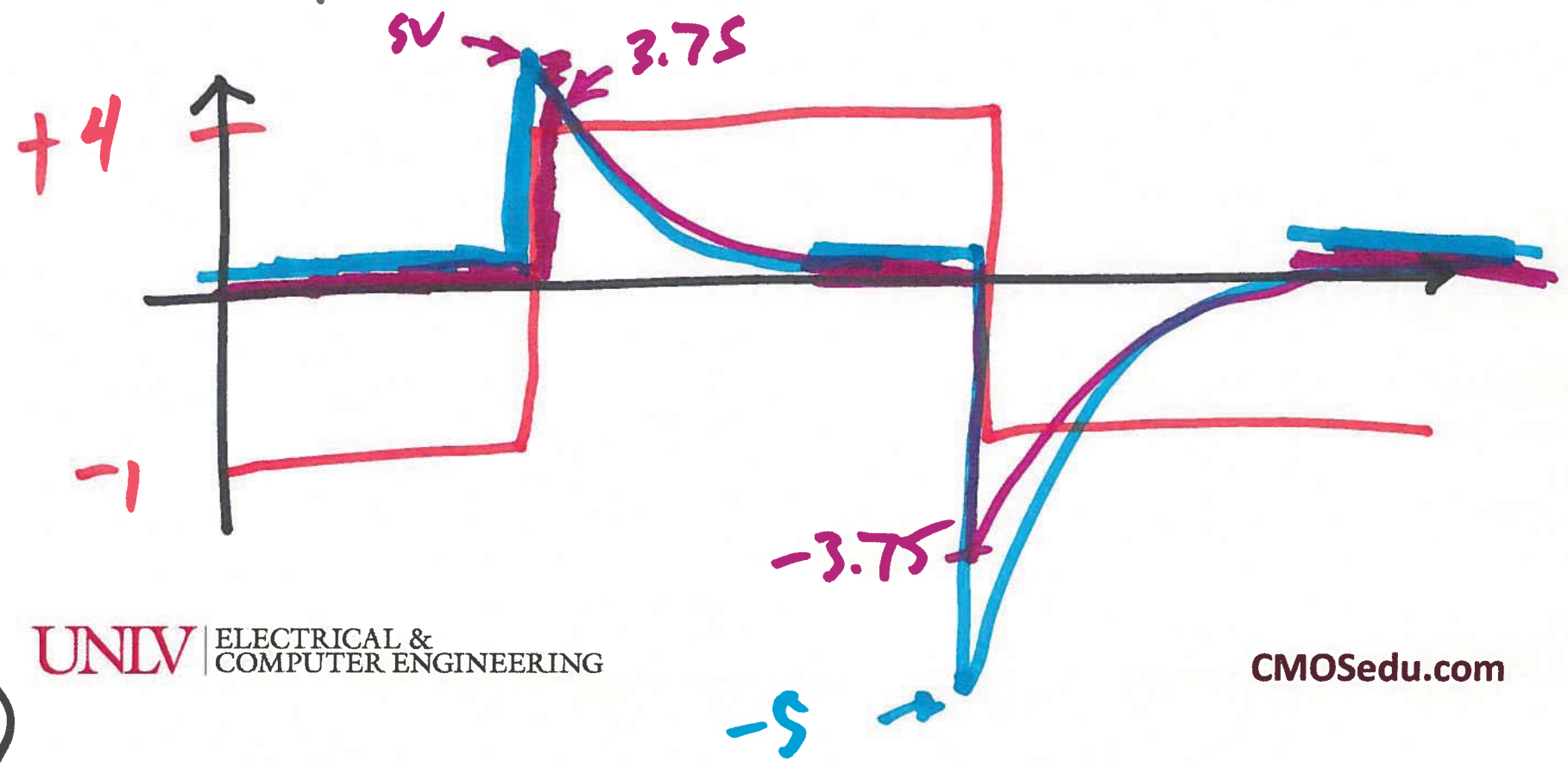


$$5. \frac{1.5k}{1.5k + .5k} = 3.75$$

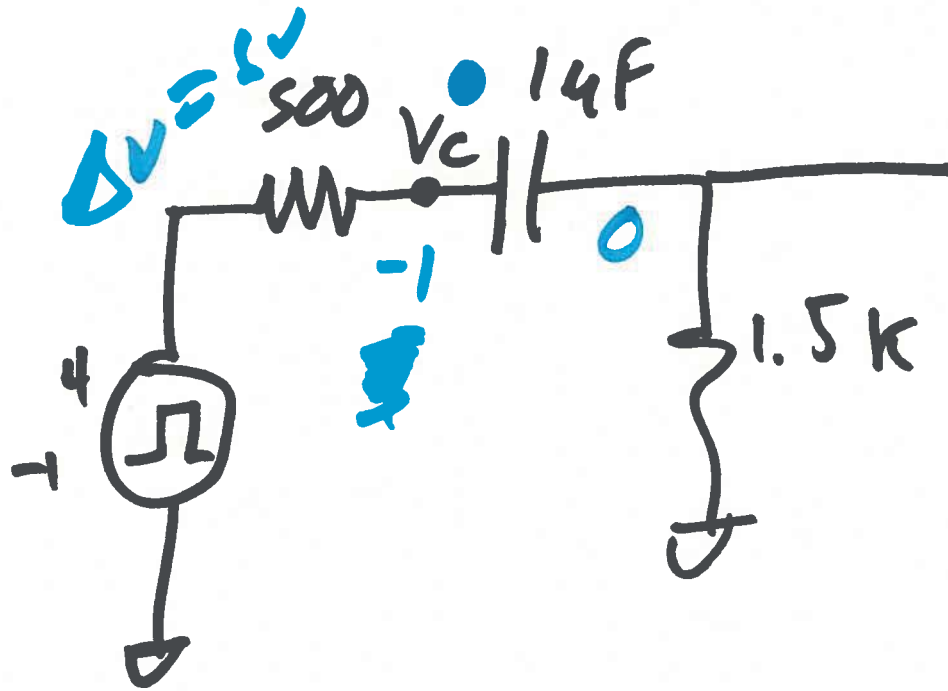
$$-1 - 0 = -1$$

$$4 - V_{o1} = -1$$

$T_{period} \gg 2\mu s$



6)



$$V_R = 5 \cdot \frac{1.5k}{1.5k + 500} = 3.75$$

$$-1 - 0 = -1$$

$$-V_C = -1$$

V_C

$$V_C =$$

