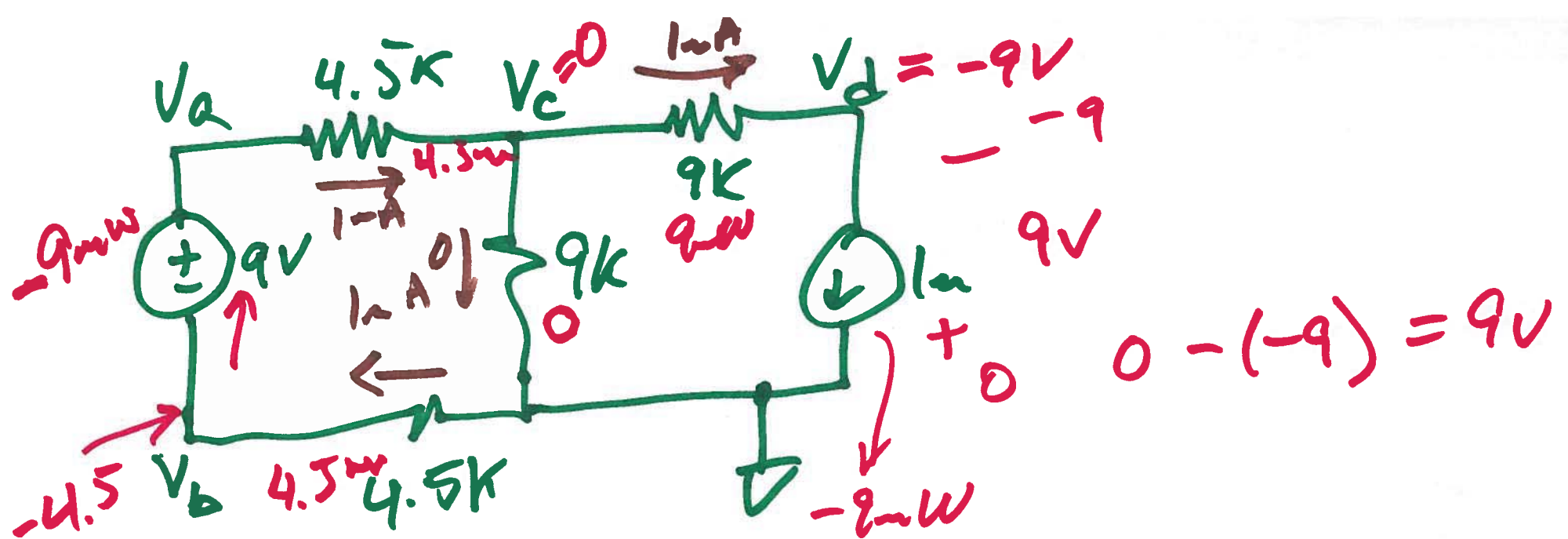
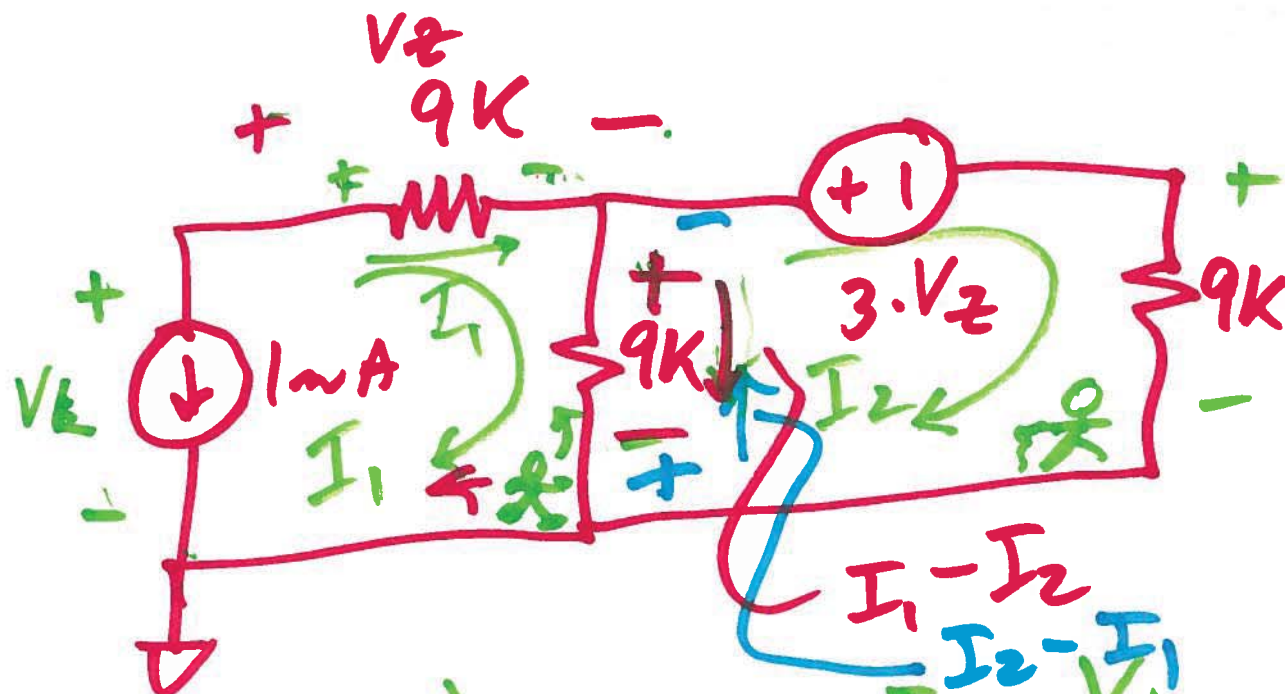


EE 220 Circuits I Lecture 12

* Study session
Saturday 4:00 pm
this room
Bring your questions





$$V_2 - 9kI_1 - 9k(I_1 - I_2)$$

$$(I_1 - I_2)9k + 9k \cdot I_1 - V_2 = 0$$

$$I_1 = -1 \text{ A}$$

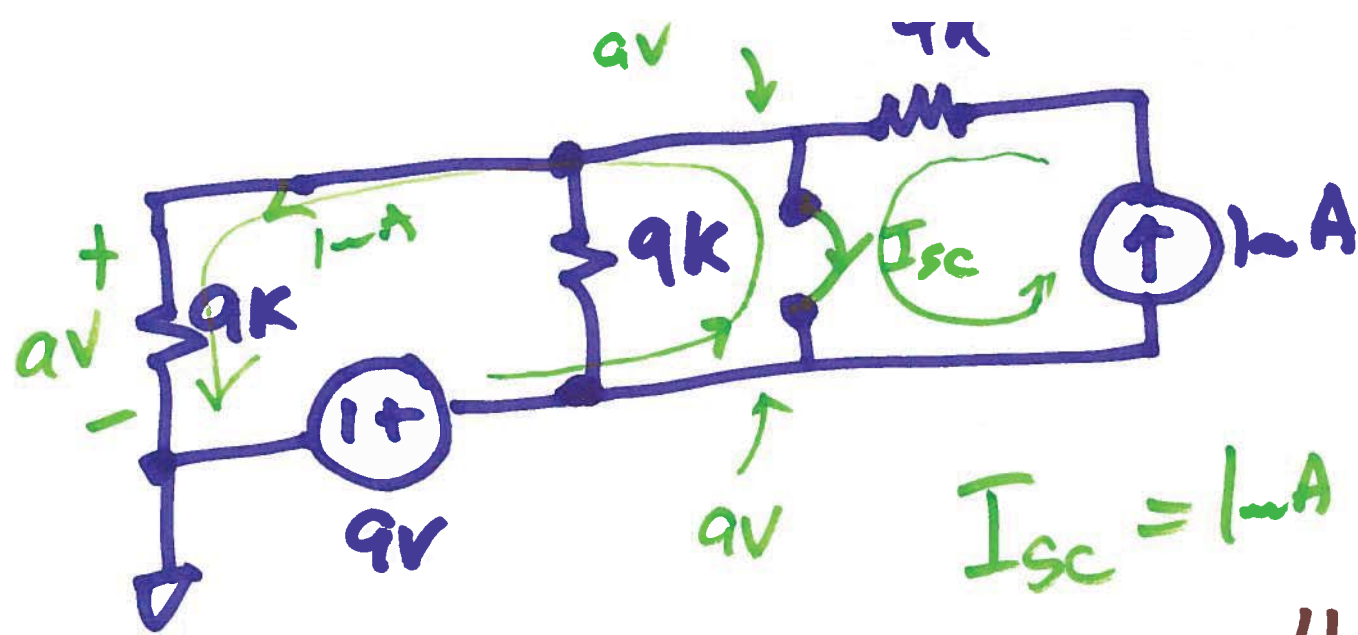
$$V_2 = I_1 \cdot 9k = -9V$$

$$9k(I_1 - I_2) - 3V_2 - 9kI_2 = 0$$

$$+ 27$$

$$-9V - 9kI_2 + 27 - 9kI_2 = 0$$

3)



$$\frac{9k \cdot 0}{9k + 0} = \frac{0}{9k} = 0$$

$$I_{sc} = 1mA - 1mA = 0$$

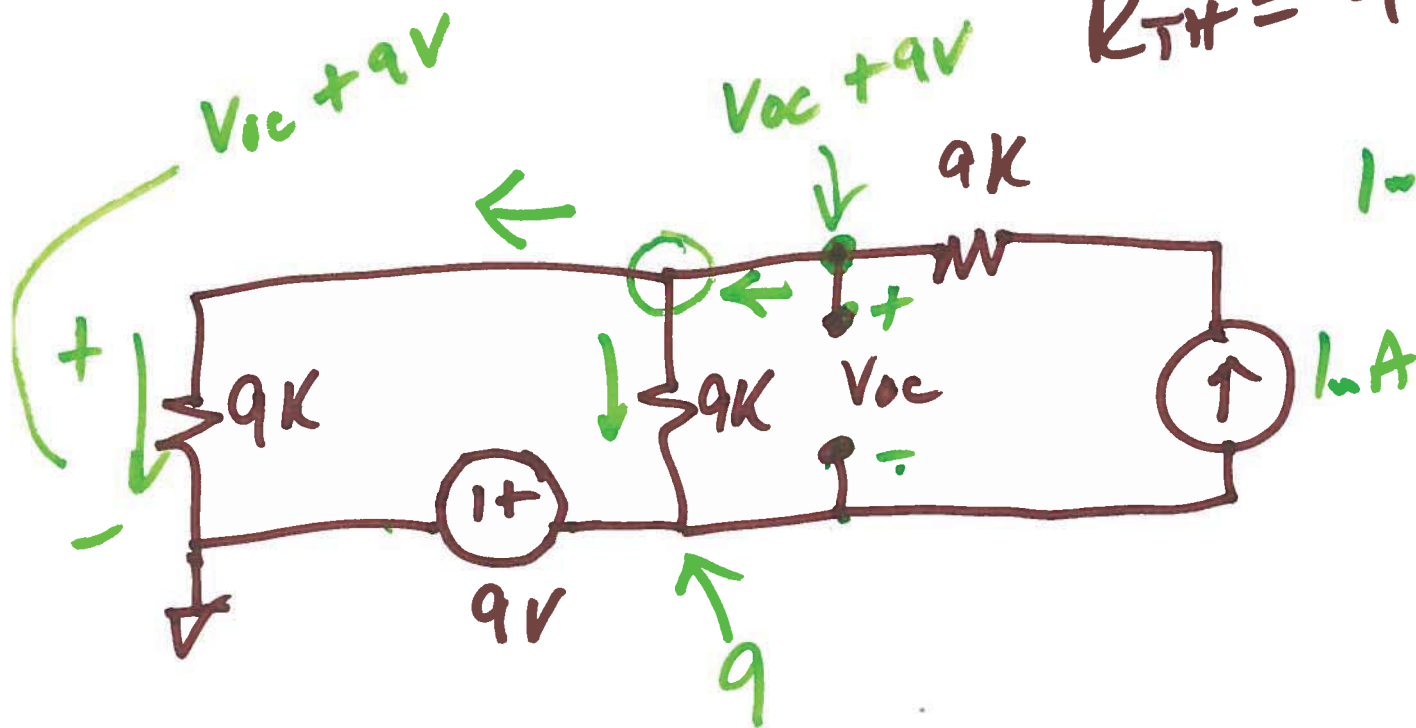
$$R_{TH} = 4.5k$$

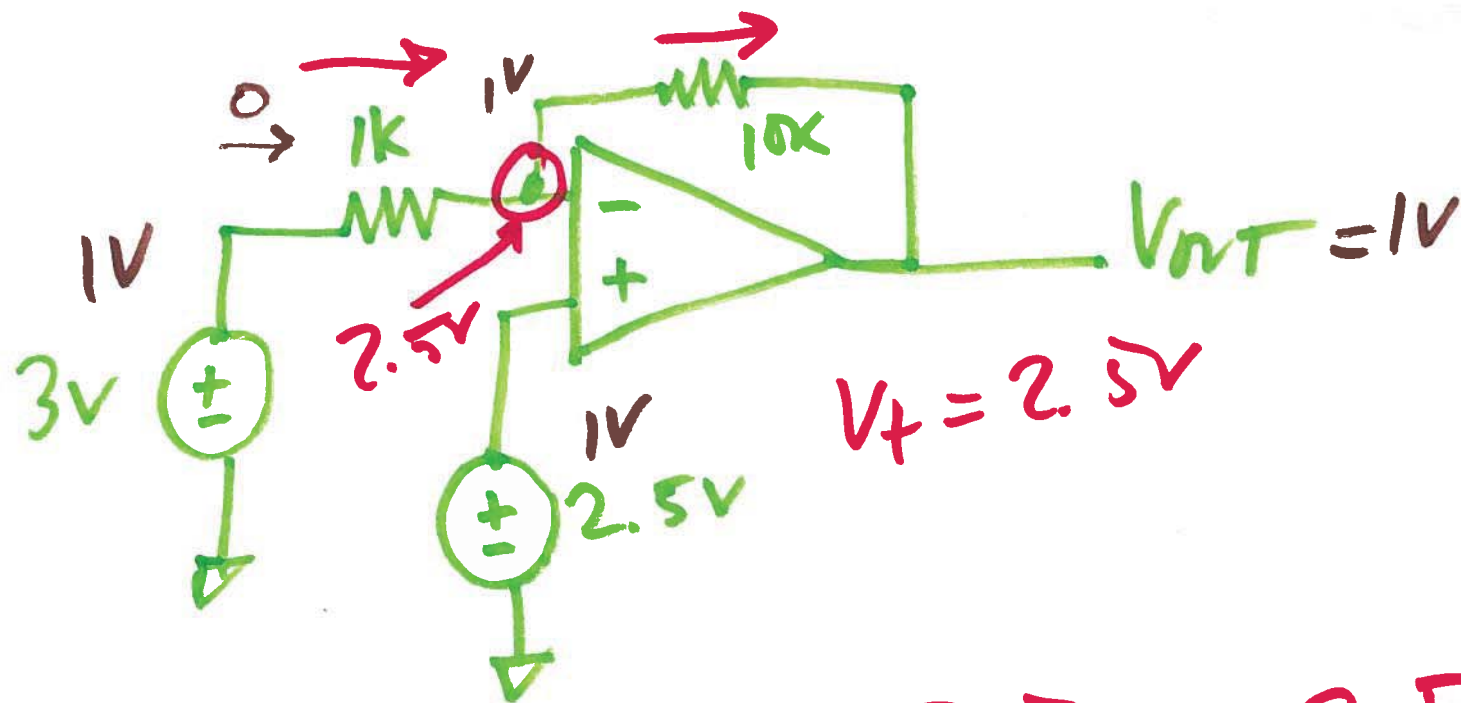


$$1mA = \frac{V_{oc}}{9k} + \frac{V_{oc} + 9}{9k}$$

$$9V = V_{oc} + V_{oc} + 9V$$

$$V_{oc} = 0$$

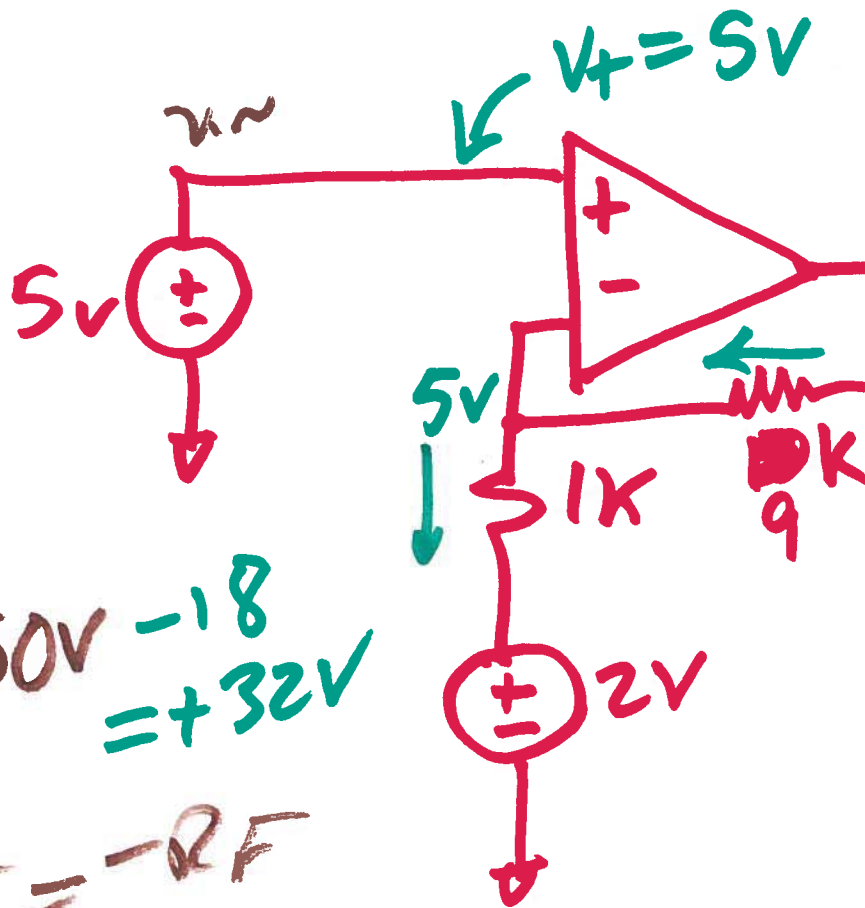




$$\text{KCL} : \rightarrow \frac{3 - 2.5}{1k} = \frac{2.5 - V_{out}}{10k}$$

$$5V = 2.5 - V_{out}$$

$$\underline{\underline{V_{out} = -2.5V}}$$

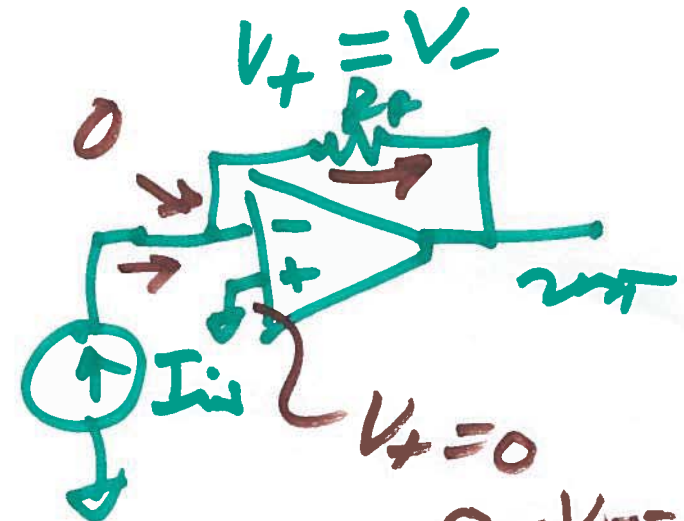


$$\frac{v_{out}}{v_{in}} = 1 + \frac{9K}{1K}$$

$$= 10$$

$$= A_{OL}(V_+ - V_-)$$

$$\infty \cdot 0$$



$$V_+ = V_-$$

$$V_+ = 0$$

$$I_{in} = \frac{0 - v_{out}}{R_F}$$

$$v_{out} = -I_{in} R_F$$

$$50V - 18 = +32V$$

$$\frac{v_{out}}{I_{in}} = -R_F$$

$$\frac{5-2}{1K} = \frac{v_{out} - 5}{9K}$$

$$27 = v_{out} - 5$$

$$v_{out} = 32V$$

6)