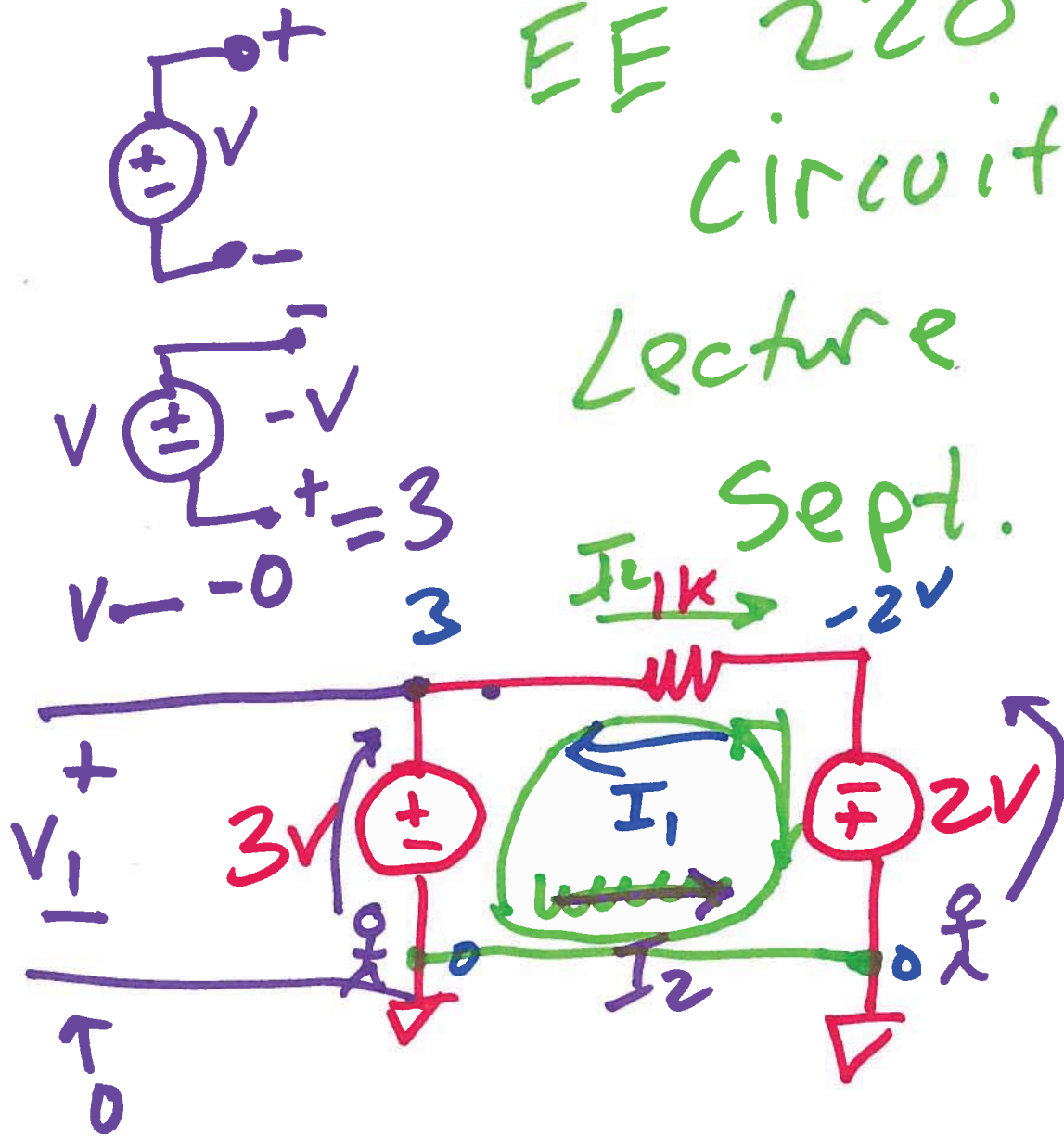


EE 220 circuits 1

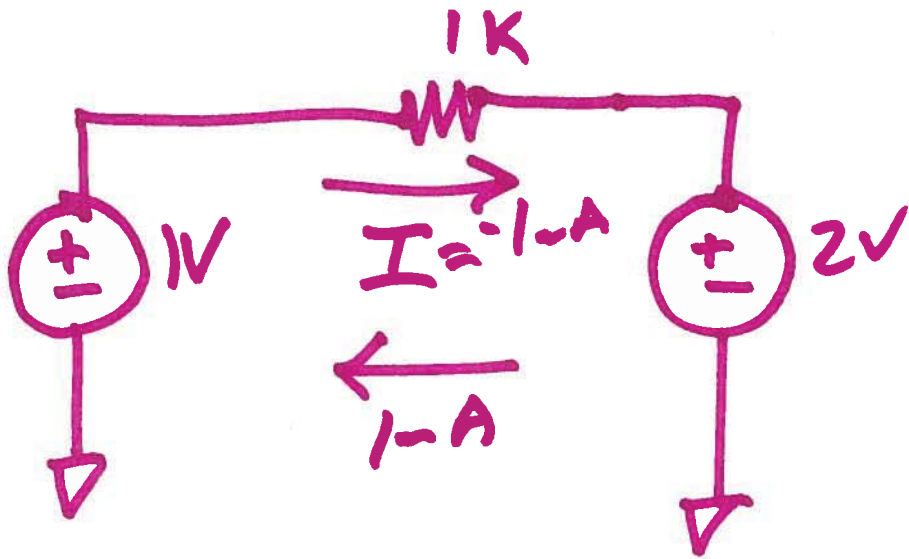
Lecture 3

Sept. 5, 2018



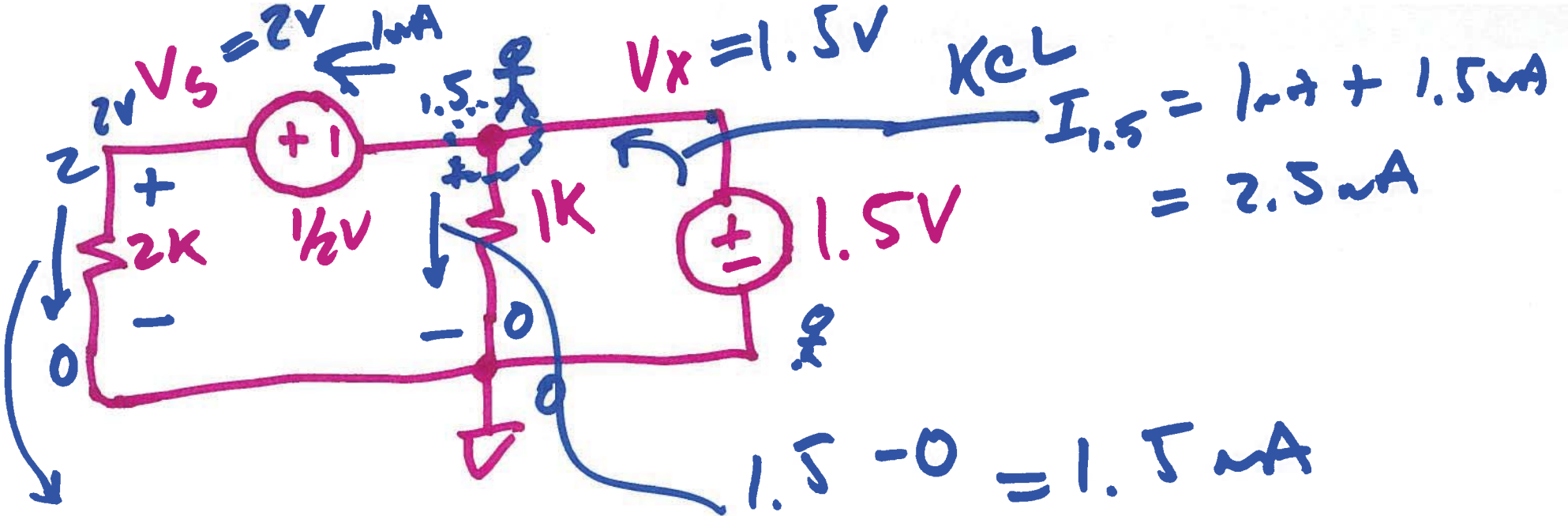
$$I_1 = \frac{-2 - 3}{1k} = -5 \mu A$$

$$I_2 = \frac{3 - (-2)}{1k} = 5 \mu A$$



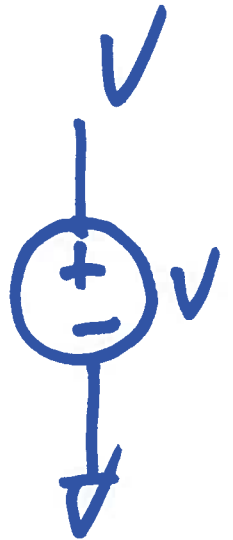
$$I = ?$$
$$\frac{1 - 2}{1\text{K}} = -1\text{mA}$$

2)



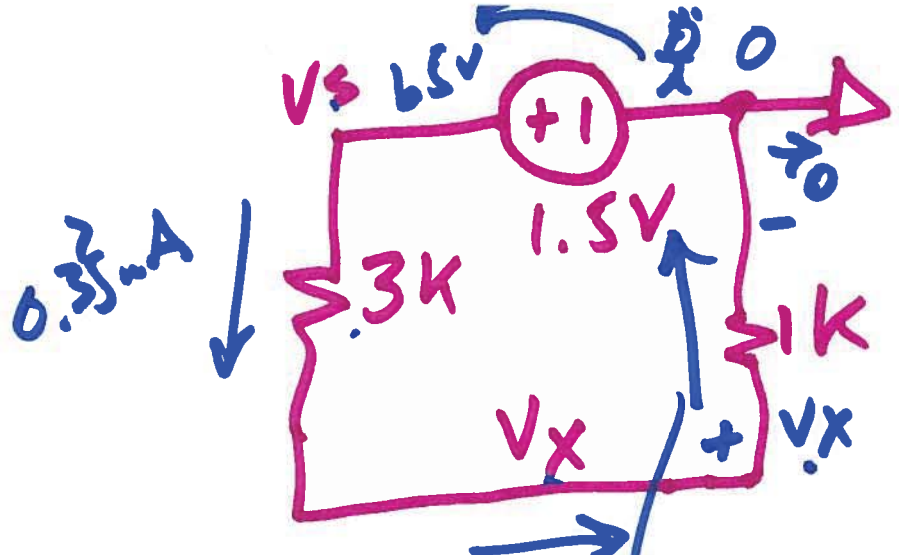
$$\frac{2 - 0}{2k} = 1\mu A$$

TITLE			
R1	Vs	0	2k
R2	Vx	0	1k
V1	Vs	Vx	0.5
V2	Vx	0	1.5V



3)

op
end



$$\frac{V_s - V_x}{3k} = \frac{V_x - 0}{1k}$$

$$\frac{0.5 - 0}{1k}$$

$$= 0.5 \text{ mA}$$

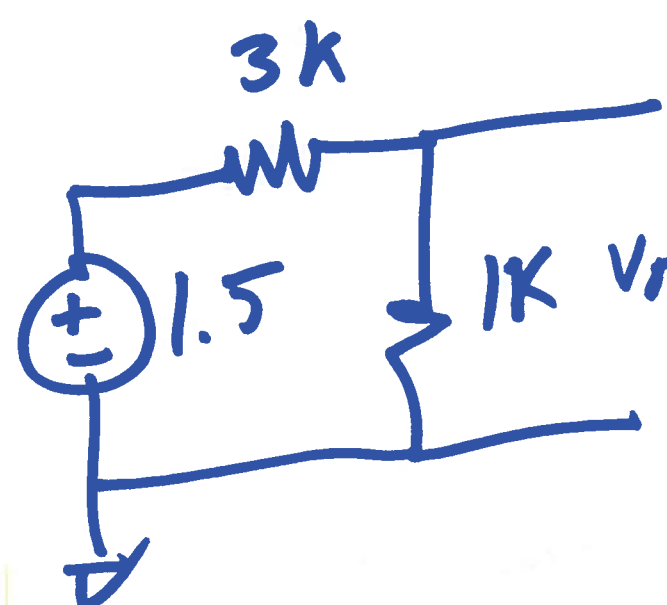
$$1.5 - V_x = 3V_x$$

$$V_x = \frac{1.5}{4}$$

$$= \underline{\underline{.375V}}$$

$$= 0.375V$$

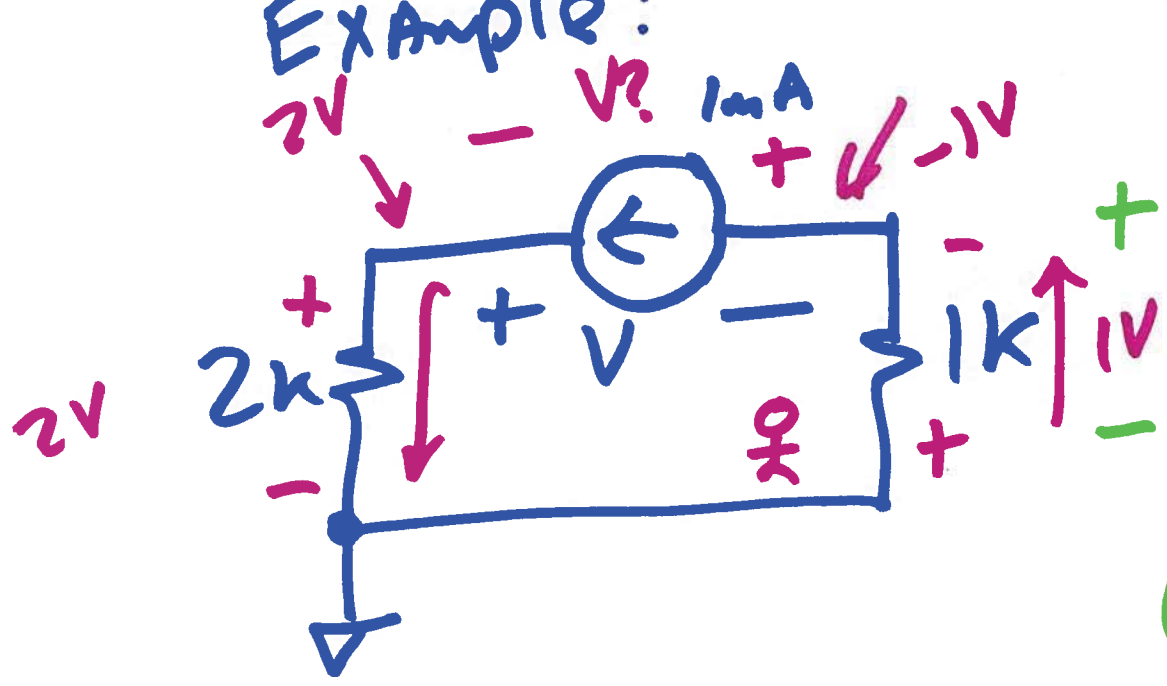
$$= 375mV$$



$$V_{out} = 1.5 \cdot \frac{1k}{1k + 3k}$$

4)

Example:



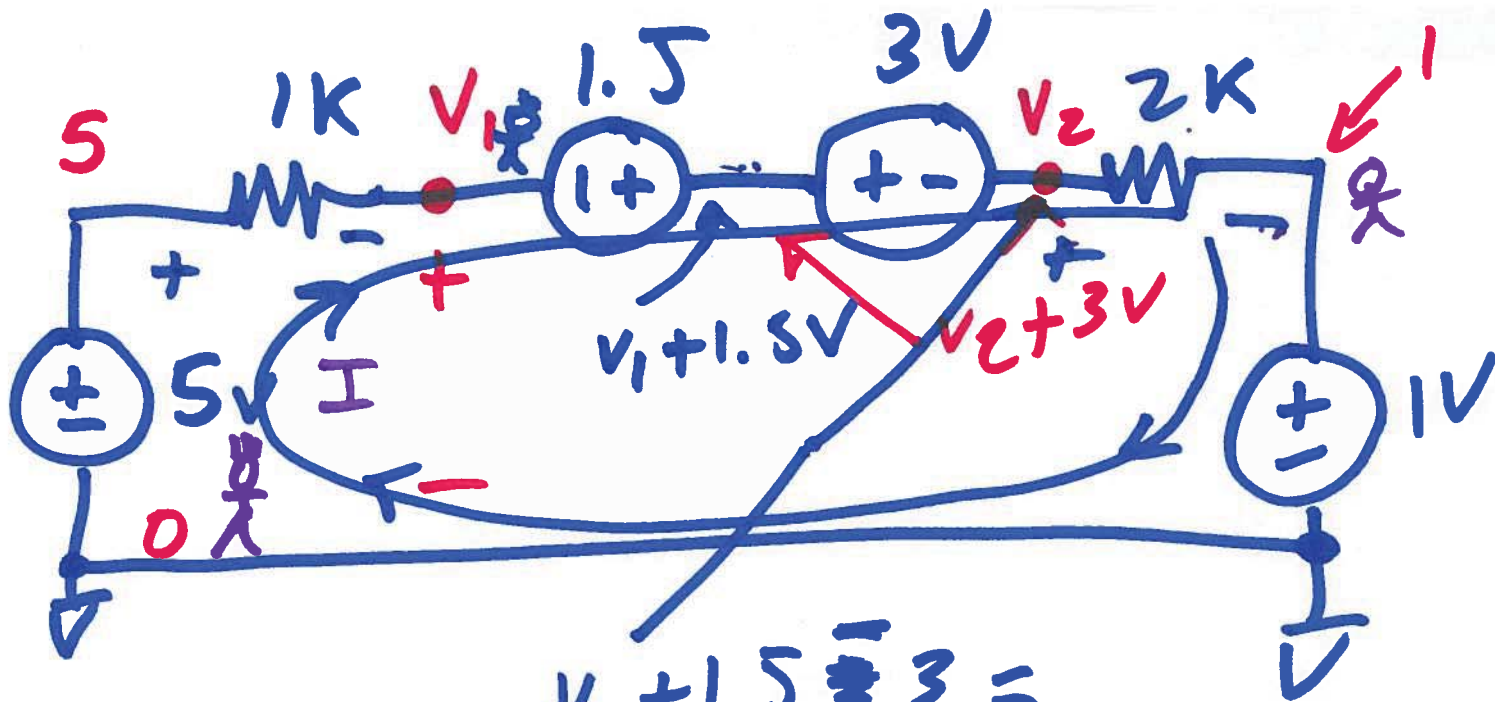
$V = ?$

$$V = 2 - (-1V) = 3V$$

$$V = -1V - 0 = -1V$$

$$V_? = -1 - 2 = \underline{\underline{-3V}}$$

5)



$$V_1 + 1.5 - 3 =$$

$$V_1 - 1.5$$

$$0 = 5 - I \cdot 1k + 1.5 - 3 - I \cdot 2k - 4 = 0$$

6)