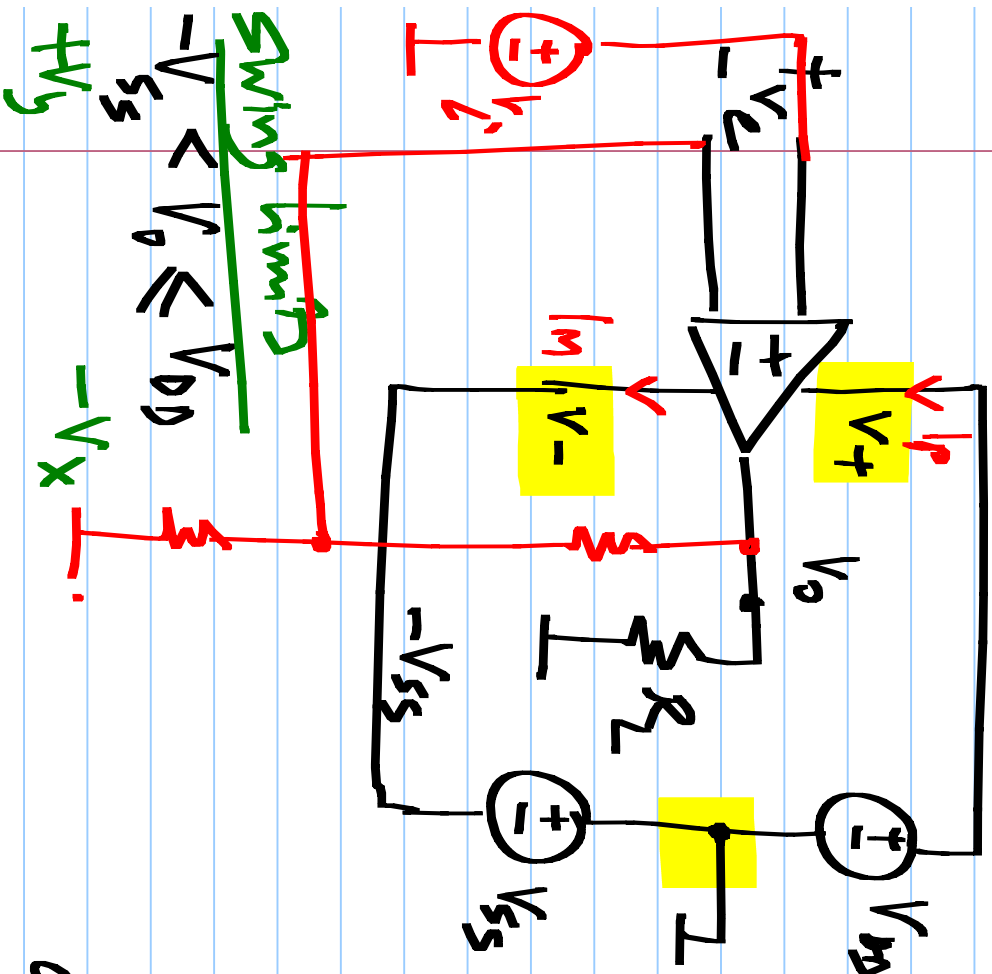


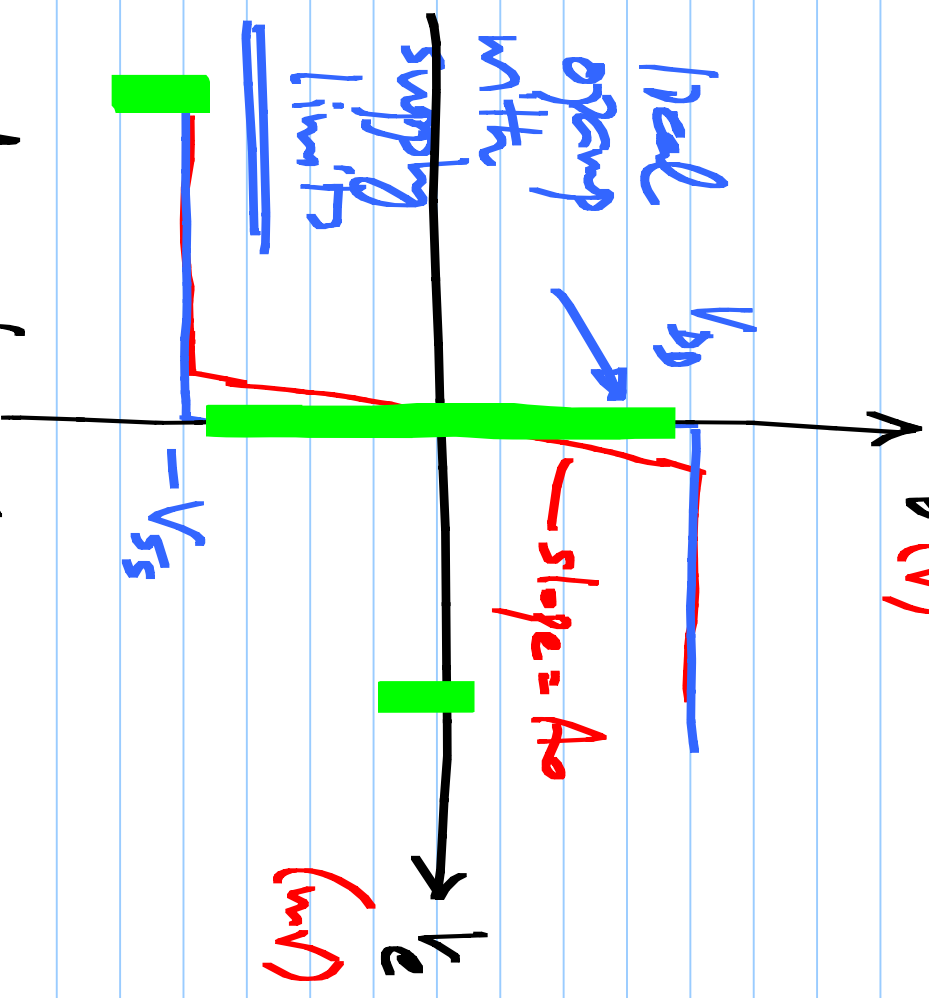
EE 2019

Ideal opamp. $V_e = 0$
Finite dc gain: $V_o = A \cdot V_e$

25/1/2018

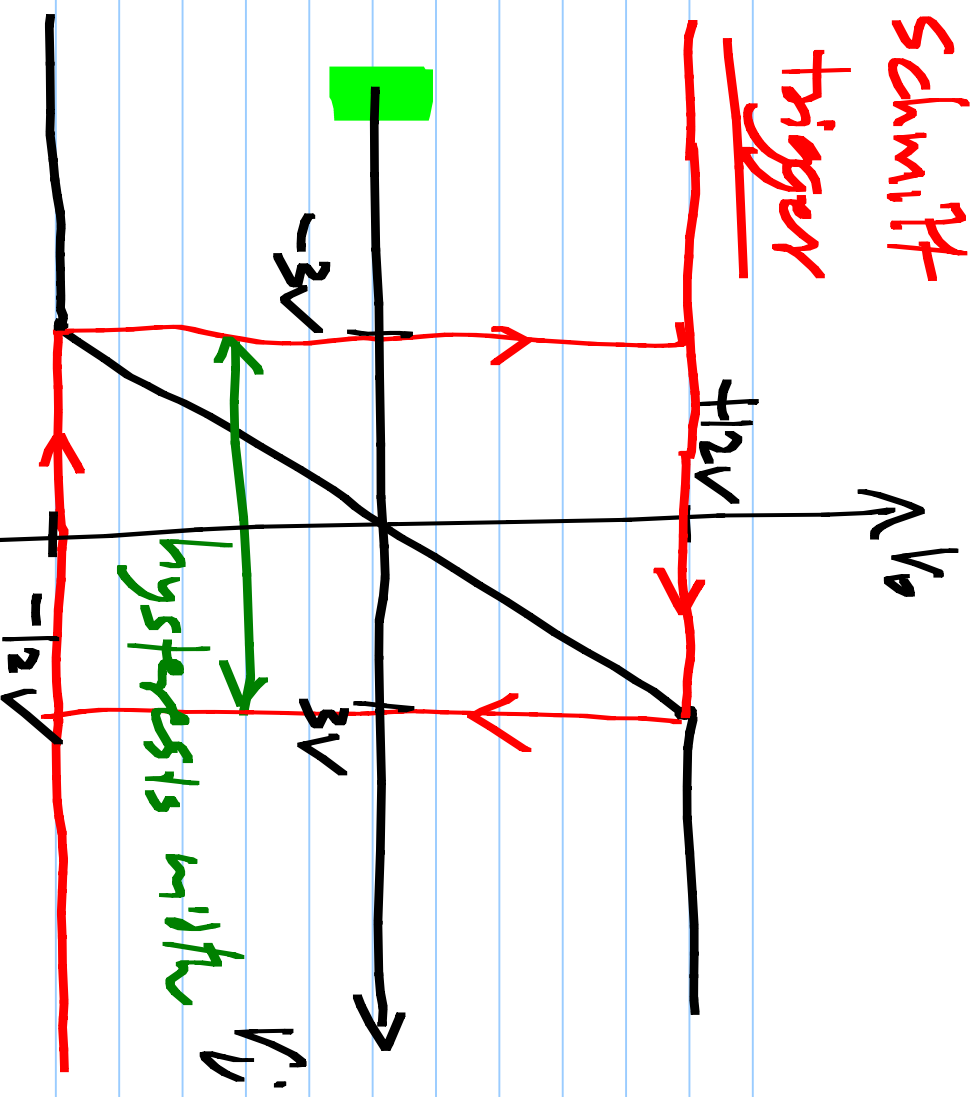
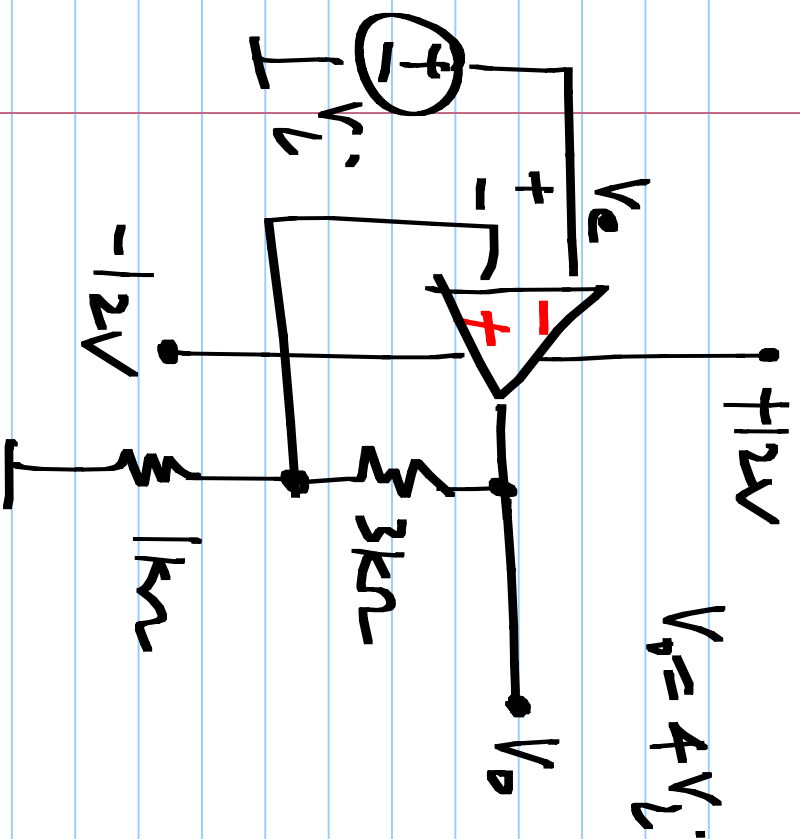


dc characteristic



Schmitt

trigger



$$v_o = \left(v_i - \frac{v_o}{K} \right)$$

$$v_o = \frac{v_o}{K} - v_i$$

hysteresis

$$V_e = \frac{V_o}{4} - V_i$$

1) start with large, negative V_i .

$$\Rightarrow V_o = 12V$$

> 0 for $V_i < 3V$

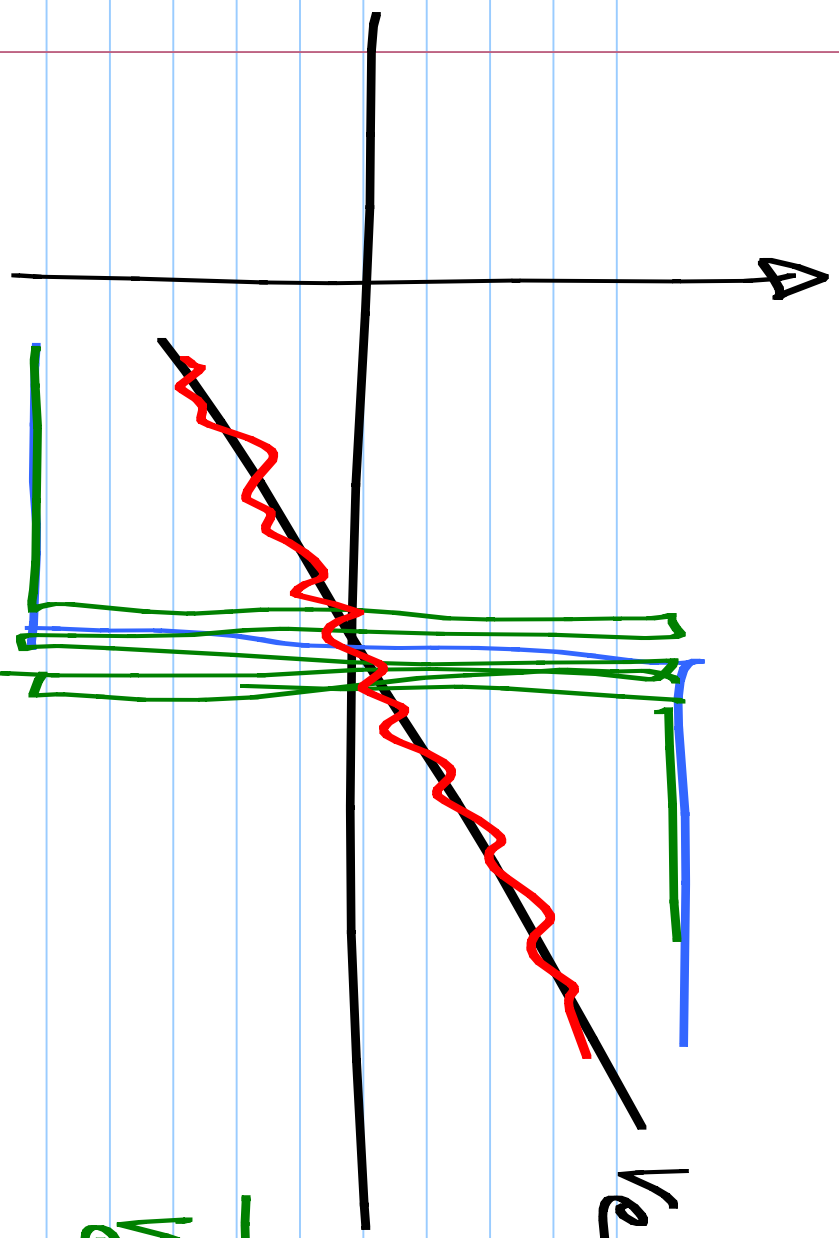
$$V_e = 3V - V_i$$

< 0 for $V_i > 3V$

2) start with large, +ve V_i .

$$V_o = -12V$$

$$V_e = -3V - V_i$$

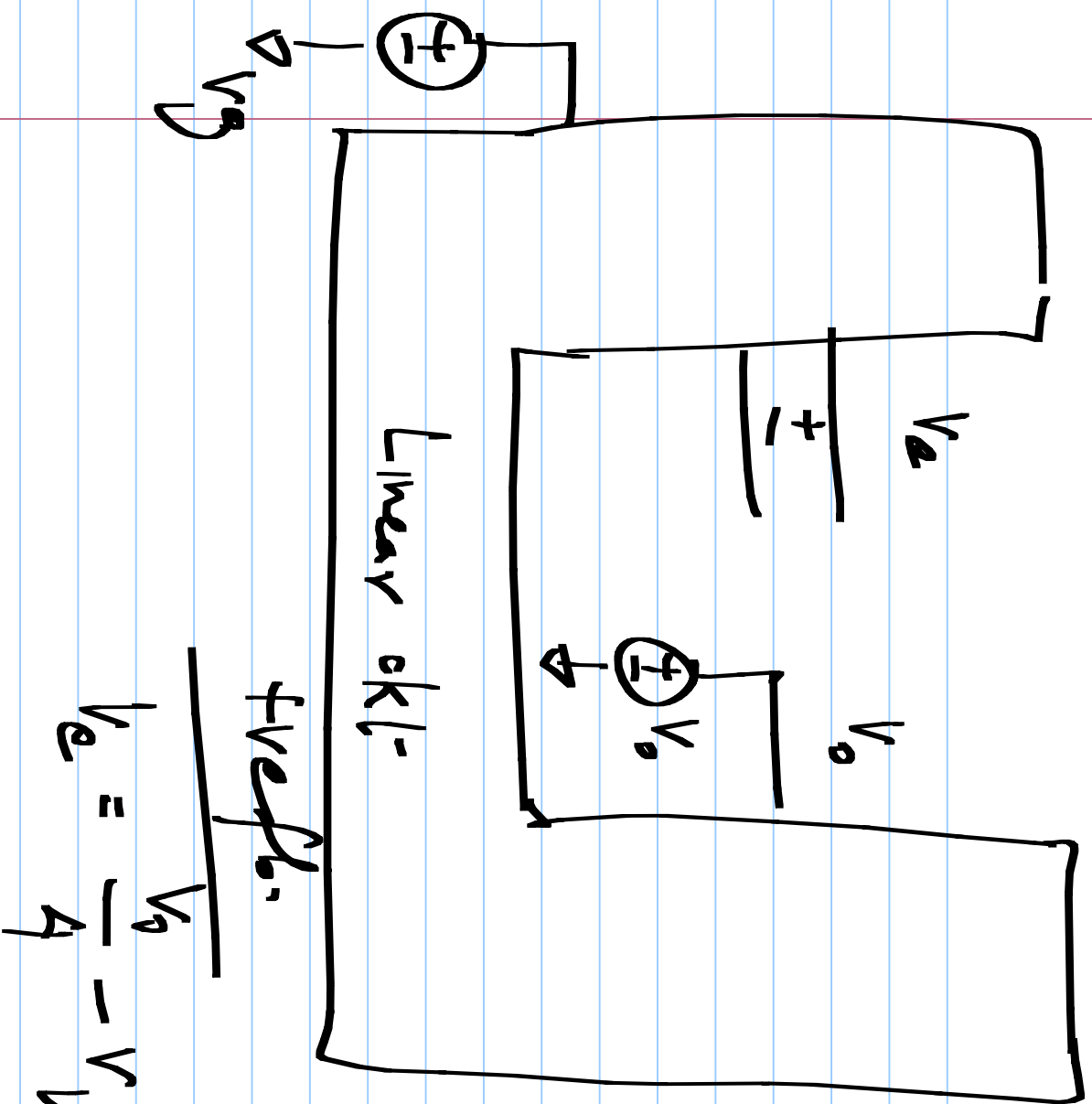


$$V_e = \frac{V_0}{K} - V_i$$

1

$$V_o = \beta V_i + \gamma V_i$$

$$\beta < 0$$



$$V_e = \frac{V_o}{4} - V_i$$

