Nolan Anderson

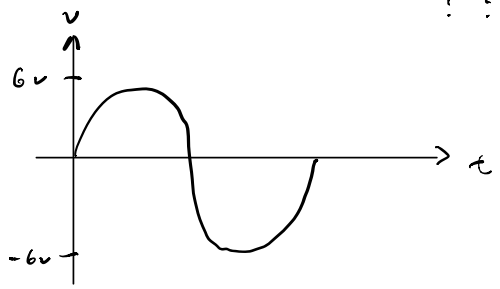
Quiz #3

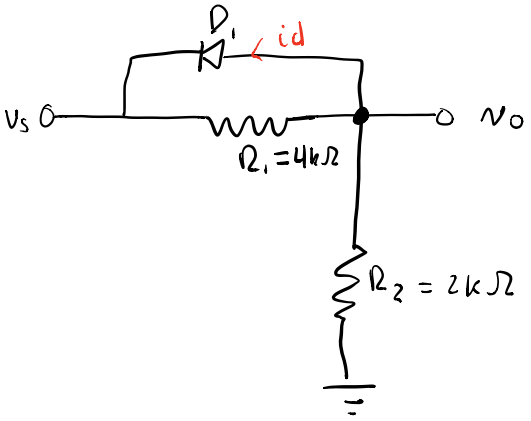
???

$R_1 = 4k\Omega$

$R_2 = 2k\Omega$

$V_S = +/- 6v$





$$\frac{V_o - V_s}{4000} + i_D + \frac{V_o - V_s}{2000} = 0$$

$$i_D = -\left(\frac{V_o - V_s}{4000} + \frac{V_o - V_s}{2000}\right)$$

$$i_D = -\frac{3V_o - 3V_s}{4000}$$

$$i_D = \frac{18 - 3V_o}{4000}$$

$i_d > 0$

$V_o =$

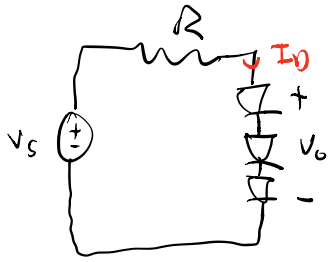
#2: $V_S = 5V$

$V_o = 2.4V$

$VD = 0.71V$

$id = 0.9mA$

$V = IR$



each diode has: $\frac{2.4}{3} = 0.8V$

$$\frac{V_S - V_o}{R} = I_D$$

$$\frac{5-2.4}{R} = 0.9mA$$

$$2.6 = .9R$$

$R = 28.88k\Omega$?

$I_R = I_D$

$$I_D = I_{D1} \exp\left(\frac{5-2.4}{25E-3}\right)$$

$I_D = .4847mA$

$$I_{D2} = \frac{2.6}{28.88} =$$

$R =$