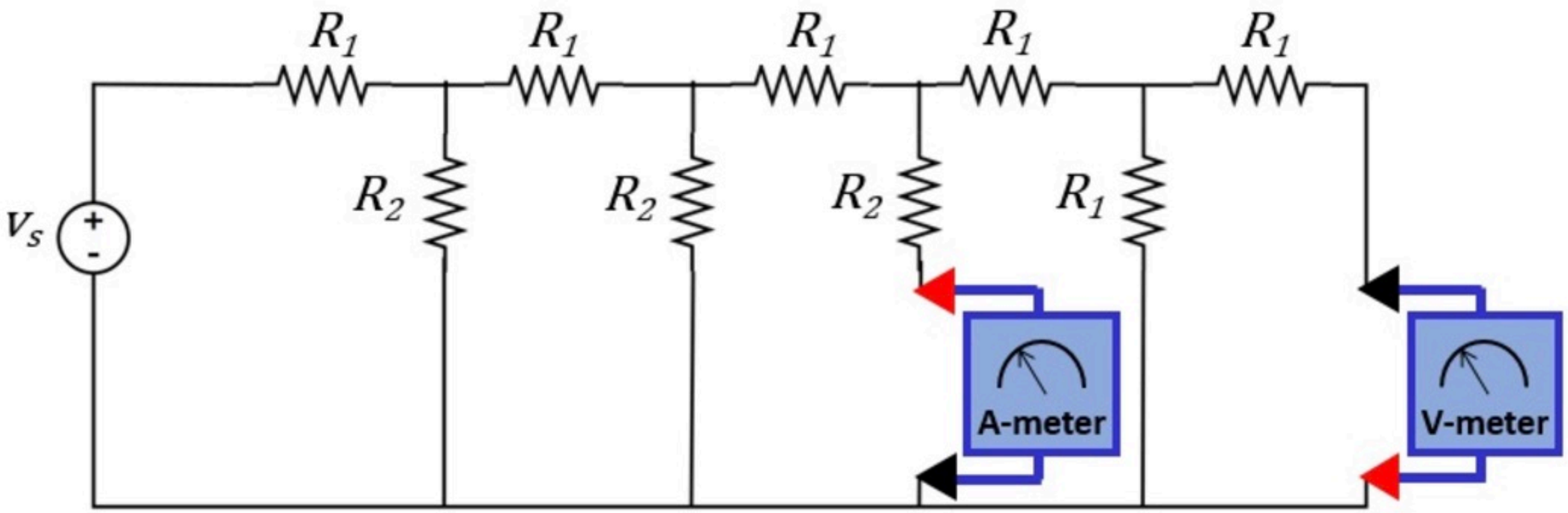
Basic Analysis 010b

No more attempts left.

Find the ammeter reading *X* and the volt-meter reading *Y*.



Given Variables:

vs : 32 V

R1 : 2 ohm

R2 : 4 ohm

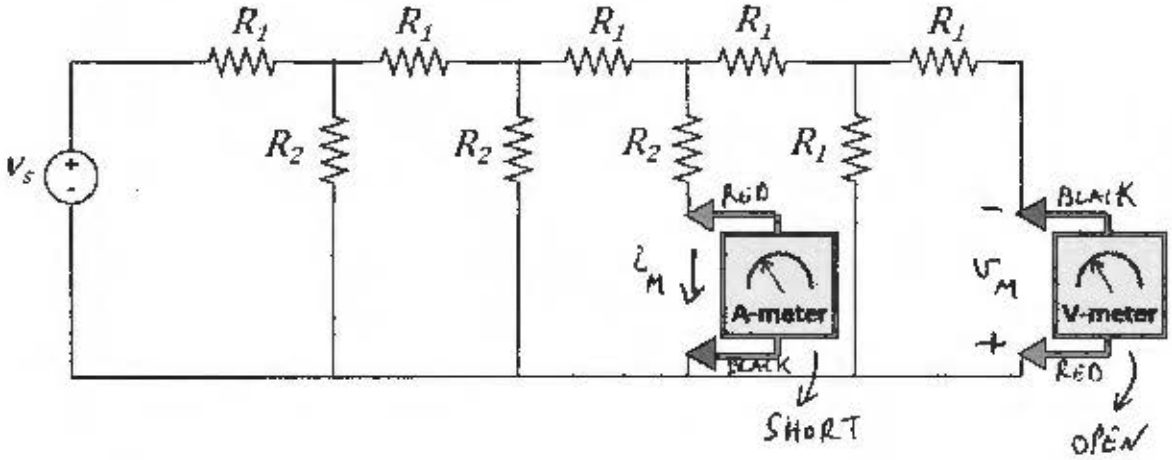
Calculate the following:

X (A) :

Y (V) :

Hint: First find the current through Vs. Use series/parallel. Then find X with current divider.

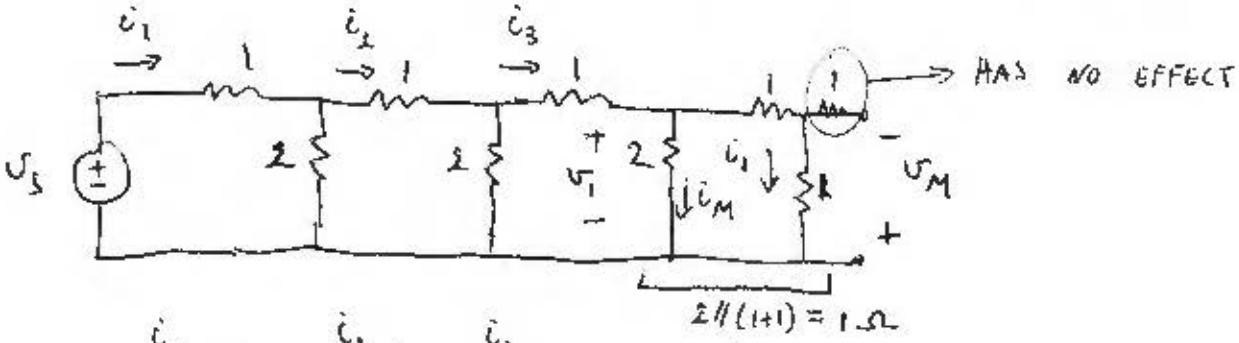
Find the ammeter reading *X* and the volt-meter reading *Y*.

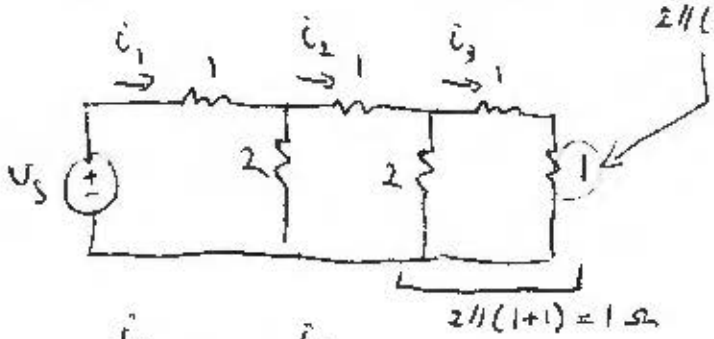


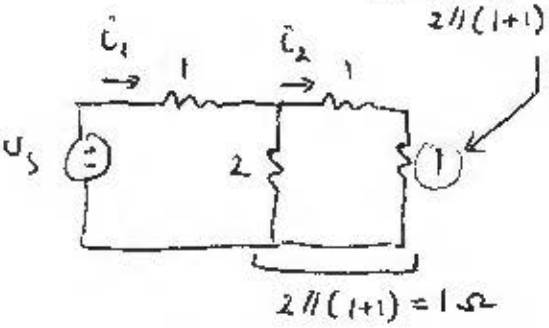
vs = 80 V

R1 = 1 Ω

R2 = 2 Ω







$$i_1 = \frac{v_s}{1+1} = 40$$

$$i_2 = i_1 \frac{2}{2+2} = 20 \quad \text{(CURRENT DIVIDER)}$$

$$i_3 = i_2 \frac{2}{2+2} = 10 \quad \text{(CURRENT DIVIDER)}$$

$$i_M = i_3 \cdot \frac{2}{2+2} = 5 \quad \text{(CURRENT DIVIDER)}$$

X = 5 A

$$v_1 = 2 \cdot i_M = 10$$

$$i_1 = i_M = 5 \Rightarrow -v_M = 1 \cdot i_1 = 5$$

Y = -5 V