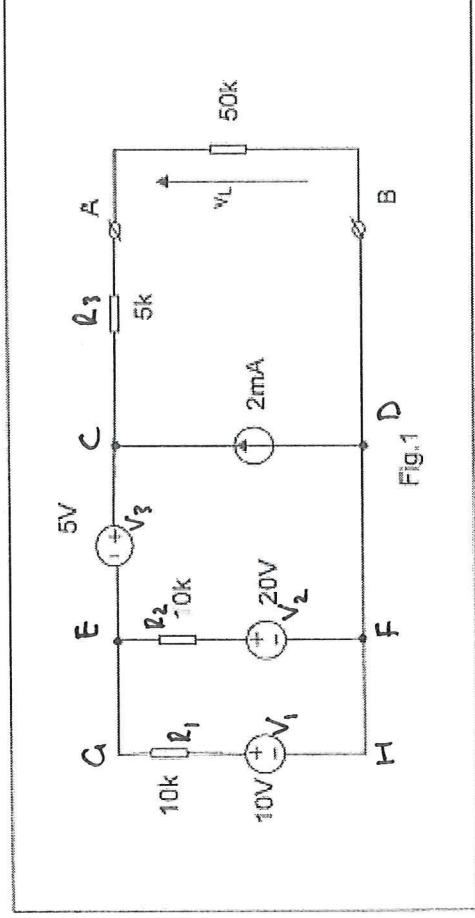


QUESTION



$$I = \frac{V_1 - V_2}{R_1 + R_2}$$

$$= \frac{10 - 20}{10k + 10k}$$

$$= \frac{-10}{20k}$$

$$= -0.5mA$$

$$\underline{V_{THEV}} = V_2 + I R_1 + V_3$$

$$(\text{LOAD REMOVED}) = 20 + (-0.5)(10) + 5$$

$$= 20 - 5 + 5$$

$$\underline{= 20V}$$

$$\underline{R_{THEV}} = R_3 + \frac{R_1 R_2}{R_1 + R_2}$$

$$= 5 + \frac{10 \times 10}{20} = 5 + \frac{100}{20} = 5 + 5 = 10k$$

$$V_{THEV} = 20V$$

$$R_{THEV} = 10k$$