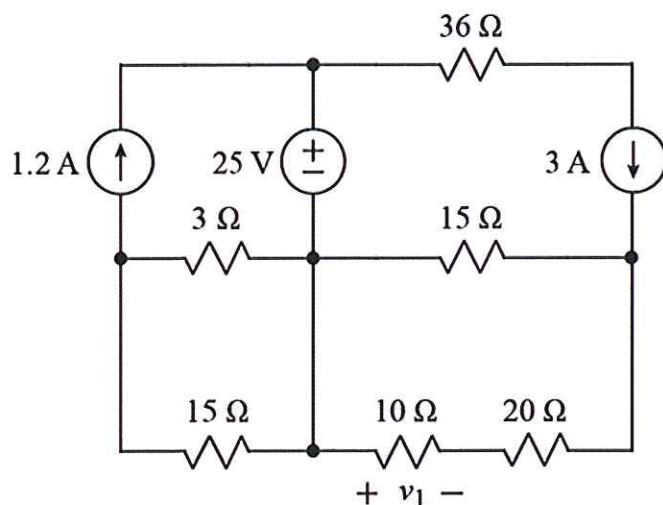
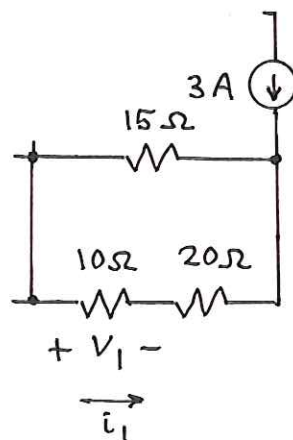


Ex:



Calculate  $v_1$ .

sol'n: We have current divider formed by the 3A source and the  $15\Omega$  and  $10\Omega+20\Omega$  on the righthand side:



By the current divider formula

$$i_1 = -3A \cdot \frac{1}{\frac{1}{10\Omega + 20\Omega} + \frac{1}{15\Omega}} = -3A \cdot \frac{15\Omega}{15\Omega + 10\Omega + 20\Omega}$$

or

$$i_1 = -3A \cdot \frac{15\Omega}{45\Omega} = -1A$$

By Ohm's law, we find  $v_1$ :

$$v_1 = -1A \cdot 10\Omega = -10V$$