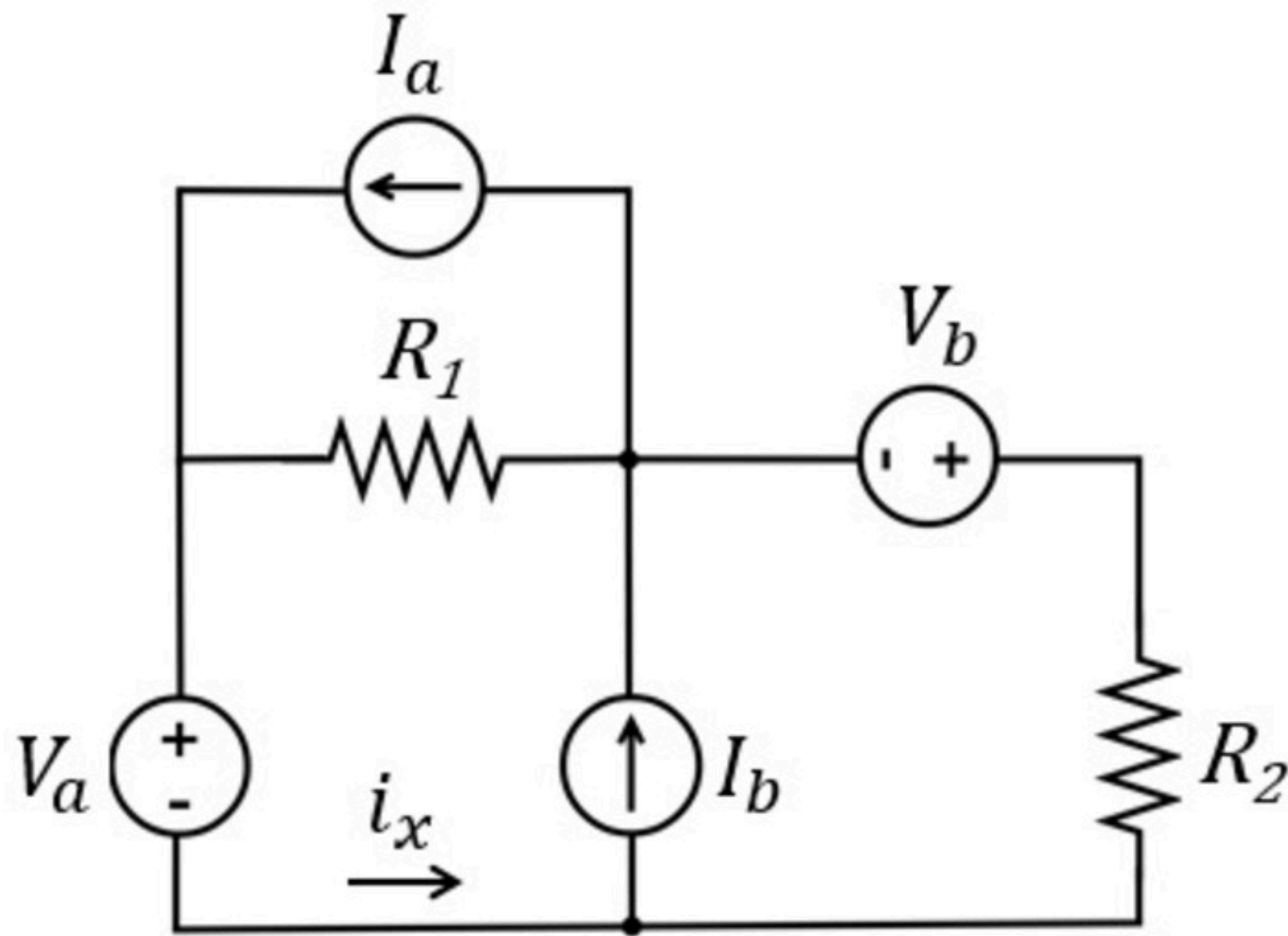


# Circuit theorems 006

Problem has been graded.

Use source transformations to find the current  $i_x$ .



Given Variables:

$V_a$  : 12 V

$V_b$  : 6 V

$I_a$  : 5 A

$I_b$  : 2 A

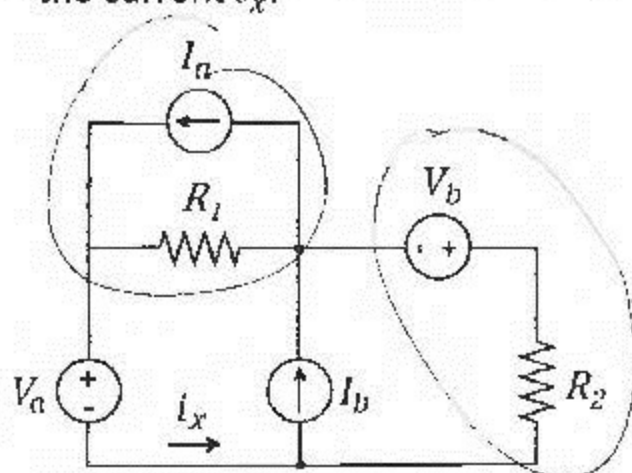
$R_1$  : 15 ohm

$R_2$  : 12 ohm

Calculate the following:

$i_x$  (A) :

Use source transformations to find the current  $i_x$ .



$$V_a = 12 \text{ V}$$

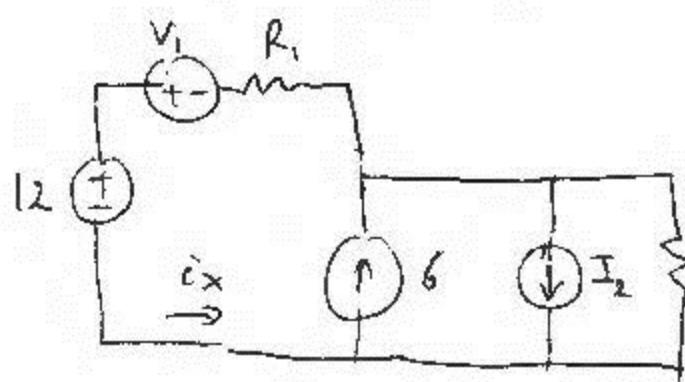
$$V_b = 6 \text{ V}$$

$$I_a = 4 \text{ A}$$

$$I_b = 6 \text{ A}$$

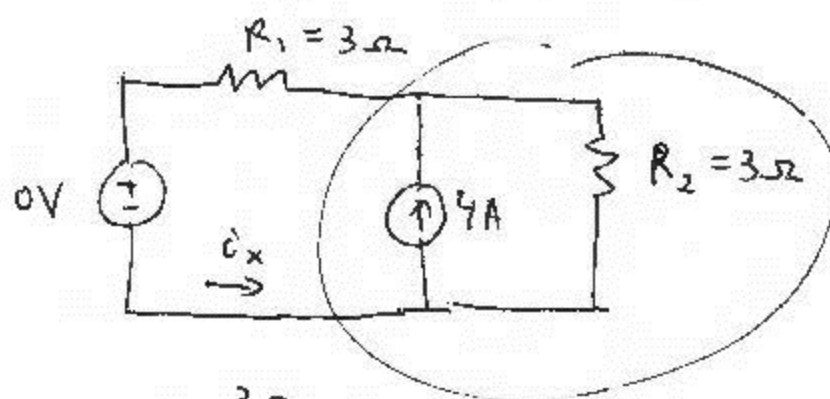
$$R_1 = 3 \text{ ohm}$$

$$R_2 = 3 \text{ ohm}$$



$$V_1 = I_a \cdot R_1 = 4 \cdot 3 = 12 \text{ V}$$

$$I_2 = \frac{V_b}{R_2} = \frac{6}{3} = 2 \text{ A}$$



$$i_x = \frac{12 \text{ V}}{6 \text{ ohm}} = 2 \text{ A}$$

$$\boxed{i_x = 2 \text{ A}}$$