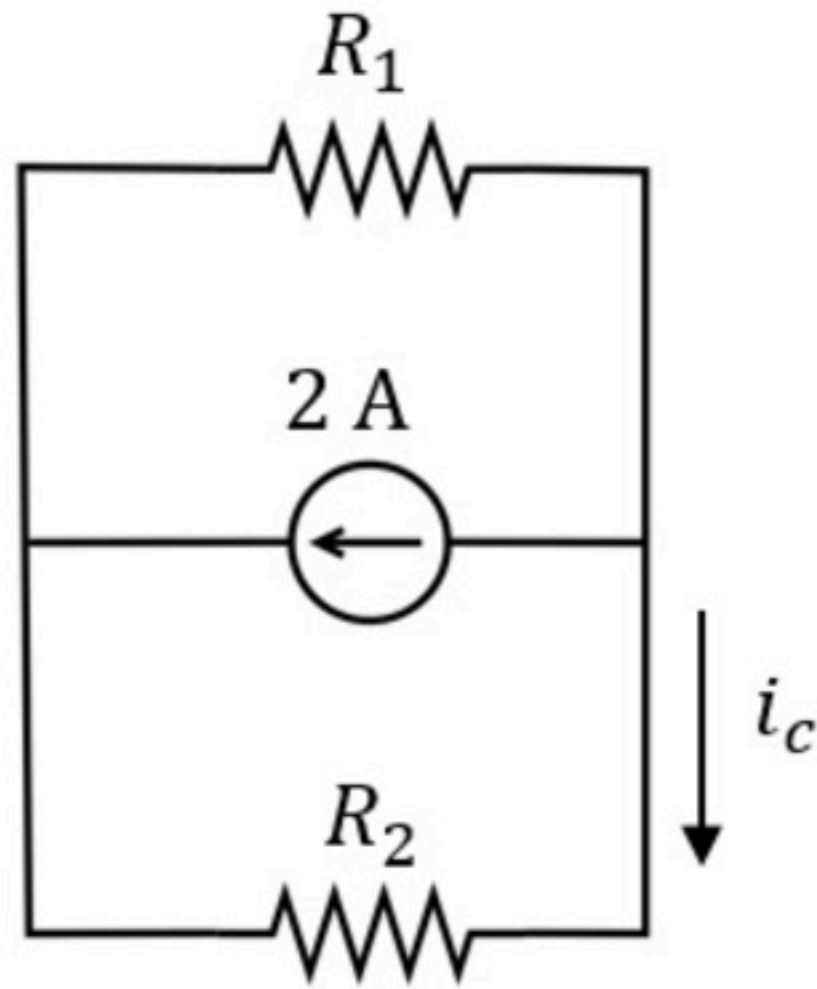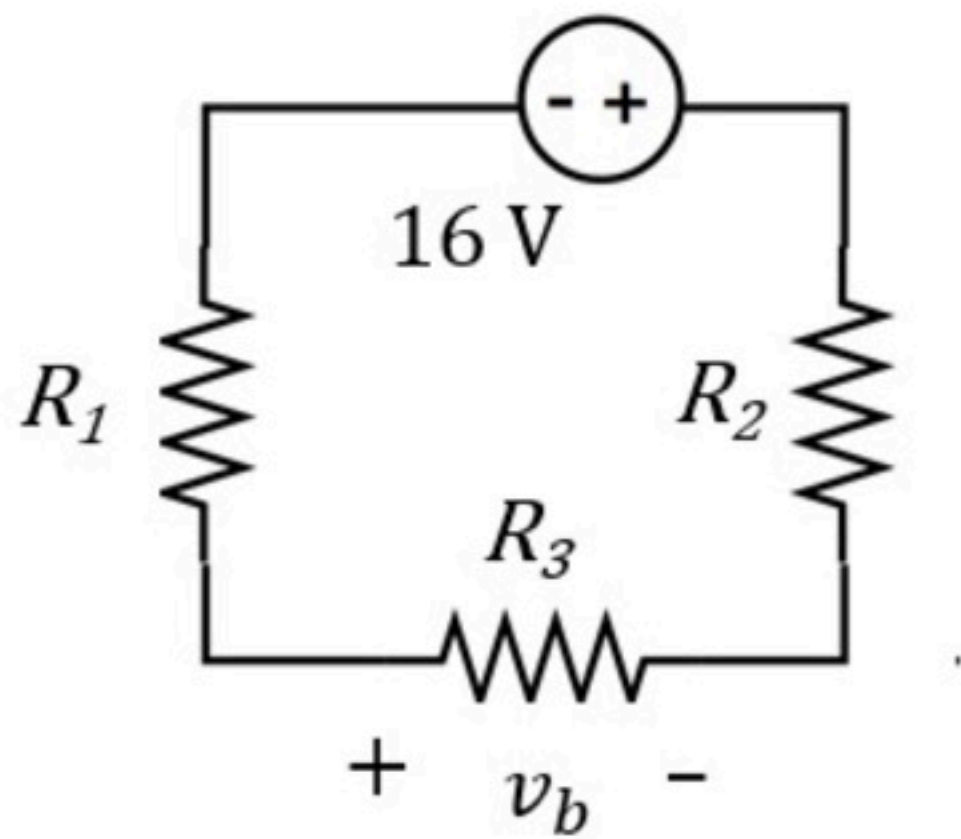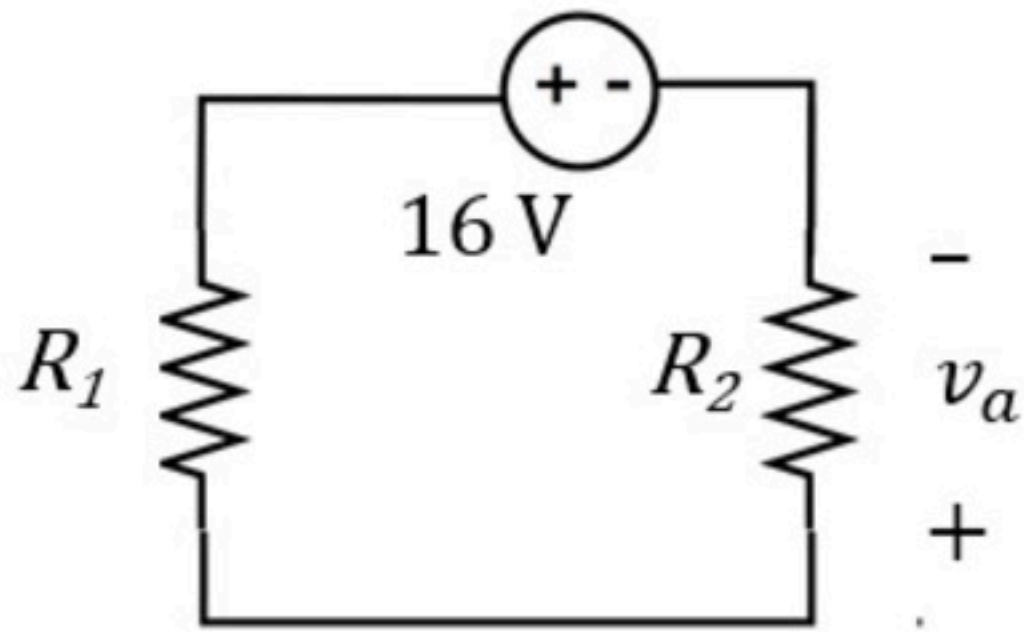Problem has been graded.

Find v_a, v_b and i_c .

Given Variables:

R1 : 2 ohm

R2 : 6 ohm

R3 : 2 ohm
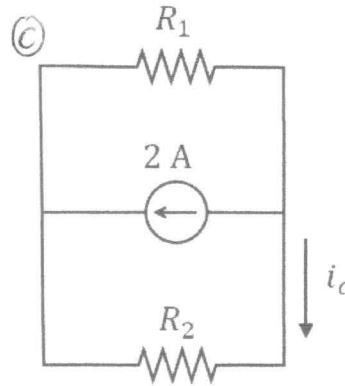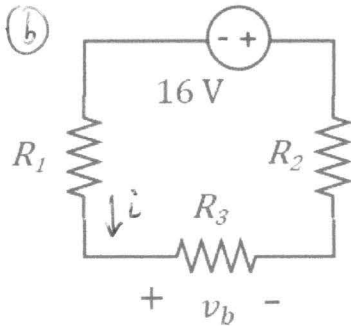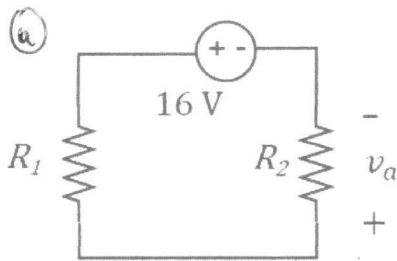
Calculate the following:

va (V) :

vb (V) :

ic (A) :

Find v_a, v_b and i_c.

$R1 = 2\,\Omega$

$R2 = 6\,\Omega$

$R3 = 2\,\Omega$

(a) VOLTAGE DIVIDER : $\quad v_a = 16 \cdot \dfrac{R_2}{R_1 + R_2} = 16 \cdot \dfrac{6}{2+6} = 12$

$$\boxed{v_a = 12V}$$

(b) VOLTAGE DIVIDER: $\quad v_b = (-16) \cdot \dfrac{R_3}{R_1 + R_2 + R_3} = (-16) \cdot \dfrac{2}{2+6+2} = -3.2$

$$\boxed{v_b = -3.2\ V}$$

BTW: WHERE THIS COMES FROM

$$i = \dfrac{(-16)}{R_1 + R_2 + R_3} \qquad \text{AND} \qquad v_b = R_3 \cdot i$$

$$\Rightarrow \quad v_b = (-16) \dfrac{R_3}{R_1 + R_2 + R_3}$$

(c) CURRENT DIVIDER: $\quad i_c = (-2) \dfrac{R_1}{R_1 + R_2} = (-2) \cdot \dfrac{2}{2+6} = -0.5$

$$\boxed{i_c = -0.5\ A}$$