

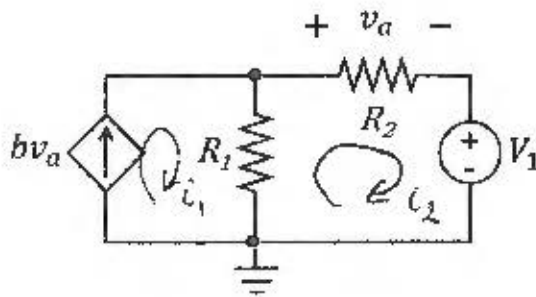
Find the voltage v_a .
Use mesh analysis.

$$R_1 = 3 \Omega$$

$$R_2 = 2 \Omega$$

$$b = 1.5 \text{ A/V}$$

$$V_1 = 10 \text{ V}$$



$$① \quad i_1 = b \cdot v_a = b R_2 i_2 = 3 i_2$$

$$② \quad \text{KVL IN } ②: \quad 3(\underbrace{i_2 - i_1}_{-2i_2}) + 2 \cdot i_2 + 10 = 0$$

$$-4 i_2 = -10$$

$$i_2 = 2.5 \text{ A}$$

$$i_1 = 7.5 \text{ A}$$

$$v_a = i_2 \cdot R_2 = 5 \text{ V} \Rightarrow \boxed{v_a = 5 \text{ V}}$$

CHECK . KVL

