KVL
Practice 5

Find the resistor R value in the following circuit.

200 ohms and 50 Ohms resistors have same voltage and they are parallel

\[ R_p = \frac{200 \times 50}{200 + 50} = 40 \Omega \]

\[ I = \frac{10}{40} = 0.25 \text{A} \]

The voltage on R resistor is

\[ V_R = 15 - 10 = 5V \]

Then, we can find the resistor value as

\[ R = \frac{V_R}{I} = \frac{5}{0.25} = 20 \Omega \]