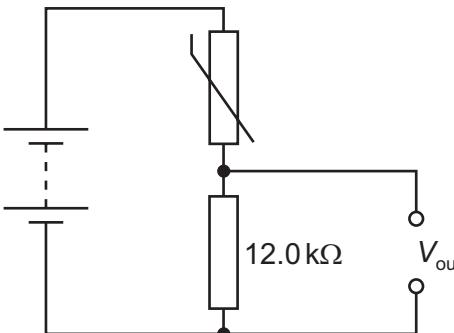


- 37 A battery of negligible internal resistance is connected in series with a thermistor and a fixed resistor of resistance  $12.0\text{ k}\Omega$ , as shown.



The table shows the resistance of the thermistor at two different temperatures.

temperature / $^{\circ}\text{C}$	resistance of thermistor/ $\text{k}\Omega$
20.0	12.0
50.0	5.00

The potential difference  $V_{\text{out}}$  across the fixed resistor is 4.50V when the thermistor is at a temperature of  $20.0\text{ }^{\circ}\text{C}$ .

What is  $V_{\text{out}}$  when the thermistor is at a temperature of  $50.0\text{ }^{\circ}\text{C}$ ?

A 2.65V

B 3.18V

C 6.35V

D 10.8V