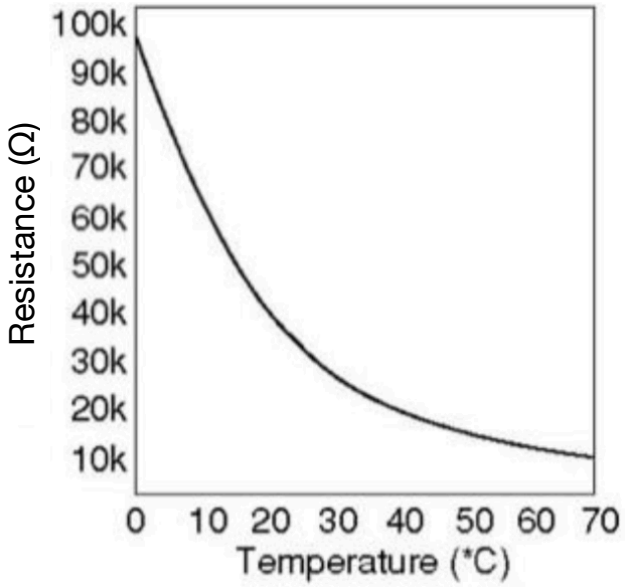
BME 200
HW4

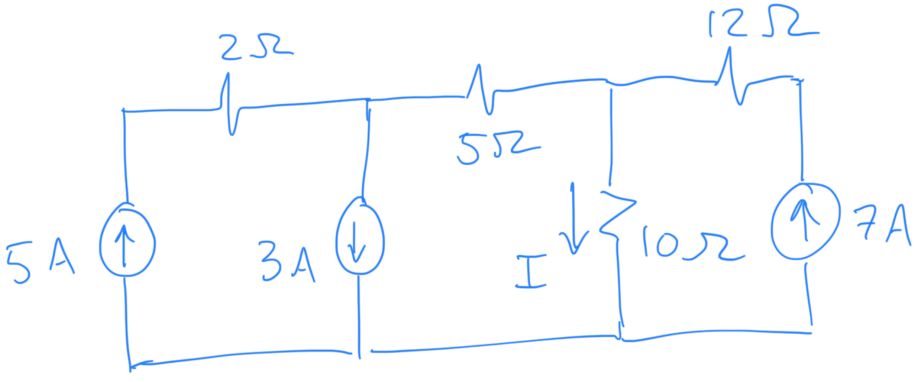
Follow the homework guidelines on the course webpage to answer the following.

1. The figure shown below shows the relationship between resistance and temperature for a thermistor. Estimate the coefficient β.



2. What voltage battery is needed to produce 500 milliAmps of current in a circuit with 24 Ω of resistance?

3. Find current I in the circuit shown below.



4. An unknown resistor, R_2, is connected in series with two other resistors ($R_1 = 20\ \Omega$ and $R_3 = 25\ \Omega$) and a 15 V battery. You know the current in the loop is 200 mA.

(a) What is the total resistance of the circuit?
(b) What is the resistance of R_2?
(c) What is the current through each resistor?
(d) What is the voltage drop across each resistor?

5. Find the intensity, I, of light transmitted through a sample if the absorbance is 0.21 and the incident light, I_0, is 1.0.