

**Variable Resistors (18:43)**

Describe the construction of a potentiometer and the function of the adjustable wiper contact.

Identify how the magnitudes of  $R_{AC}$ ,  $R_{AB}$ , and  $R_{BC}$  portions of the potentiometer relate to one another.

Draw the schematic symbol for a potentiometer.

Given a  $1k\Omega$  potentiometer with the b terminal positioned at 50% determine the resistance of  $R_{AC}$ ,  $R_{AB}$  and  $R_{BC}$ .

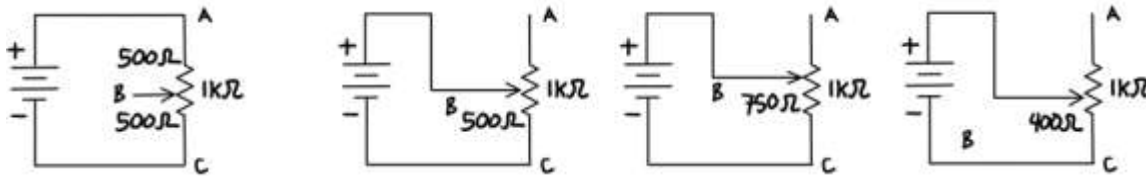
Given a  $1k\Omega$  potentiometer with the b terminal wiper arm positioned at 40% between A and B and 60% between B and C determine the resistance of  $R_{AC}$ ,  $R_{AB}$  and  $R_{BC}$ .

Given a  $2k\Omega$  potentiometer with  $200\Omega$  of resistance between terminals A and B determine  $R_{BC}$ .

Given a  $1k\Omega$  potentiometer with  $780\Omega$  of resistance between terminals B and C determine  $R_{AB}$ .

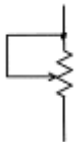
Given a potentiometer with  $200\Omega$  of resistance between terminals A and B and  $300\Omega$  of resistance between terminals B and C determine  $R_{AC}$ .

Given potentiometer in the below configurations identify the resistance seen by the source.



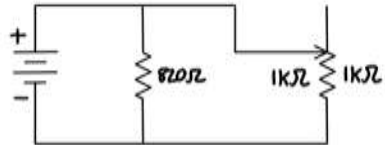
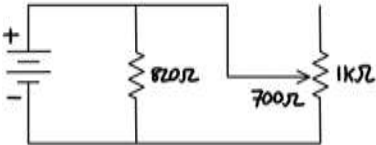
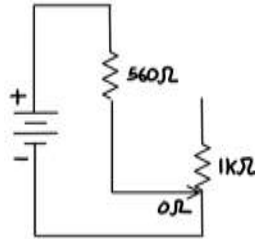
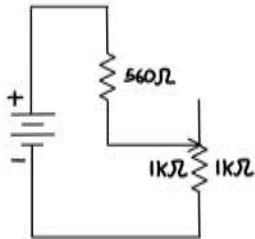
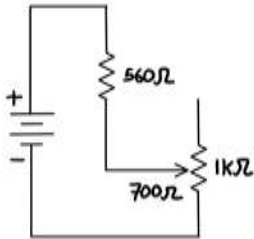
Identify another method of schematically representing potentiometers deployed as a 2 terminal variable resistor.

Identify how a potentiometer wired in the following fashion acts like a 2 terminal variable resistor.



Identify the consequences of sliding the adjustable middle terminal to the extreme maximum and minimum.

Given potentiometers in the below configurations identify the resistance seen by the source.



Differentiate between potentiometers with linear and logarithmic tapers.