

Q. Name one use for the Wheatstone bridge.
A. Temperature, length, cross-sectional area, material from which it is made.

A. To find the diameter of a wire.

Q. What is the unit for resistance?

Q. What is the formula for resistors in series?
A. The ohm

A. In parallel with the power supply.

Q. What is the formula for resistivity?
Q. What is the total resistance of 30 Ω , 60 Ω and 90 Ω if they are in parallel?

A. $1.24 \times 10^{-6} \Omega \cdot m$
A. 14 Ω

A. The resistance increases.
A. Across the object when it is not part of a circuit.

A. Fail-safe device in an oil flame boiler.
Q. Name one use for a potentiometer.

$$A. V = IR$$

Q. What happens to the resistance of a thermistor as it is heated?

Q. What is the formula for resistors in parallel?

$$A. R = R_1 + R_2 + R_3$$

$$A. \rho = \frac{R\pi d^2}{4l}$$

$$A. \frac{R_1}{R_2} = \frac{R_3}{R_4}$$

Q. List the factors that affect the resistance of a conductor.

A. The resistance decreases.

Q. What happens to the resistance of a metallic conductor as it is heated?

Q. What is the total resistance of 2Ω , 4Ω and 8Ω if they are in series?

A. In series with the part of the circuit in which you want to measure the current.

A. Volume control in a radio.

Q. When a Wheatstone bridge is balanced...

Q. Where would you connect an ohmmeter to measure resistance?

$$A. 16:36\Omega$$

Q. What is a micrometer used for?

Q. Where would you connect a rheostat to set it up as a potential divider?

$$A. \frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

Q. Where would you connect an ammeter in a circuit?

Q. The length, diameter, and resistance of a piece of wire were 85.6 cm , 0.22 mm , 27.9Ω . Find ρ .