

Name: _____

Date: _____

Partner: _____

Do not change units.
Do not use scientific notation for any answer.

Part I: Resistors: one from each of three adjacent bins.

$R_1 =$ _____ \pm _____ Ω
(ohmmeter)

$R_2 =$ _____ \pm _____ Ω
(ohmmeter)

$R_3 =$ _____ \pm _____ Ω
(ohmmeter)

$R_{\text{series}} =$ _____ \pm _____ Ω
(formula)

$R_{\text{series}} =$ _____ \pm _____ Ω
(ohmmeter)

$R_{\text{series}} =$ _____ \pm _____ Ω
(plot)

$R_{\text{parallel}} =$ _____ \pm _____ Ω
(formula)

$R_{\text{parallel}} =$ _____ \pm _____ Ω
(ohmmeter)

$R_{\text{parallel}} =$ _____ \pm _____ Ω
(plot)

Part II: Resistivity of carbon paste inside a resistor

Color band you chose: _____

Expected Resistance: $R_4 =$ _____ \pm _____ Ω (based on color bands only!)

Carbon paste for R_4 : $L =$ _____ \pm _____ mm $D =$ _____ \pm _____ mm

$A =$ _____ \pm _____ mm² $\rho =$ _____ \pm _____ $\Omega \cdot \text{mm}$

Part II: Rheostat:

Rheostat Diameter: $D_R =$ _____ \pm _____ mm

Number of loops (n) in 50 mm: _____ \pm _____ (from tracing...)

Wire Diameter: $D =$ _____ \pm _____ mm (computed from $n...$)

Plot of R vs. x : $\text{slope} =$ (_____ \pm _____) Ω/mm

Resistivity from plot: $\rho =$ _____ \pm _____ $\mu\Omega \cdot \text{mm}$