

**DATA TABLES FOR PHYSICS 281 OSCILLOSCOPE LAB
SUMMER AM I 2002**

Exercise 1

Voltage Across Known Resistor V_k	Error in Voltage Across Known Resistor ΔV_k

Voltage Across Unknown Resistor V_x	Error in Voltage Across unknown Resistor ΔV_x

Voltage V_{dc} directly across the DC source	Error ΔV_{dc} DC source Voltage

Exercise 2

SOURCE

AC Peak to Peak Voltage V_{pp} directly across the AC source	Error ΔV_{pp} source Voltage

AC Amplitude V_{amp} directly across the AC source	Error ΔV_{amp} source Voltage

$$V_{amp} = V_{pp}/2$$

V_{RMS} directly across the AC source	Error ΔV_{RMS} source Voltage

$$V_{RMS} = V_{amp}/\text{SQRT}(2)$$

KNOWN RESISTOR

AC Peak to Peak Voltage V_{pp} directly across R_k	Error ΔV_{pp} Voltage Across R_k

AC Amplitude V_{amp} across R_k	Error $\Delta V_{amp} R_k$

AC RMS Voltage V_{RMS} across R_k	Error $\Delta V_{RMS} R_k$

Period p for R_k	Error Δp_k

Frequency f_k for R_k	Error $\Delta f_k R_k$

UNKNOWN RESISTOR

AC Peak to Peak Voltage V_{pp} directly across R_X	Error ΔV_{pp} Voltage Across R_X

AC Amplitude V_{amp} across R_X	Error $\Delta V_{amp} R_X$

AC RMS Voltage V_{RMS} across R_X	Error $\Delta V_{RMS} R_X$

Period p for R_X	Error Δp_X

Frequency f_X for R_X	Error Δf_X for R_X

$I = \underline{\hspace{1cm}} \pm \underline{\hspace{1cm}} \text{ mA}$

$R_X = \underline{\hspace{1cm}} \pm \underline{\hspace{1cm}} \Omega$

R_X determined by multimeter, if available $\underline{\hspace{1cm}} \Omega$