Work Sheet

Team members: _____

1.- _____ 2.- _____

3.- _____ 4.- _____

5.- _____ _____

Instructor: _____

Note: Show all of your work and make sure to label the scale of all of your graphs!

1. Sketch the calibration signal. Measure its period and p-p amplitude. Include the associated uncertainties.

2. Sketch the graph of the sinusoidal wave with 1kHz frequency and 2 volt p-p amplitude. Measure one, five and ten periods for this wave. For each case determine the frequency of the wave. What Volts/Div setting gives the most precise value for the frequency?

3. Tuning fork. Calculate the percentage error between the measured frequency and the frequency listed on the tuning fork.

4. Sketch the setup in Figure 1; label each component.

5. Sketch the waveform obtained with the circuit in Figure 1. Measure the peak to peak voltage of this signal.

6. Sketch the setup in Figure 2, and the waveform obtained with this circuit. Measure the peak to peak voltage of the ripple observed on the capacitor voltage.

Questions:

1. Estimate the highest frequency you can measure using this oscilloscope. *Hint: Assume you can get no more than 1 period/division.*

2. Estimate the lowest frequency you can measure using this oscilloscope. *Hint: Allow the width of the screen to equal one period.*

Parameters for Hands-On quiz

Amplitude in Volts: _____ Frequency in Hertz: _____ Waveform: _____ Channel _____