

DSO Worksheet

Your Name: _____ Signature: _____

Lab partner(s): _____

Course & Section: _____ Station # _____ Date: _____

1. What is your estimate of the accuracy to which you can make measurements with your scope, in terms of cm, mm or DIV?

_____ (units)

2. What is your measured period and frequency (from counting divisions), with uncertainties, of the 1 kHz square wave calibration signal?

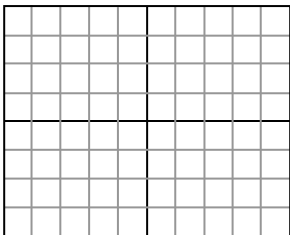
PERIOD = _____ \pm _____ (units)

FREQUENCY = _____ \pm _____ (units)

3. What is your measurement (by counting divisions) of the peak-to-peak voltage of the calibration signal?

VOLTAGE = _____ \pm _____ (units)

4. Provide a sketch of the waveform obtained from the doorbell transformer, with appropriate scales on the horizontal and vertical axes. Also provide the period, frequency and peak-to-peak voltage of the signal obtained from your measurements.



PERIOD = _____ \pm _____ (units)

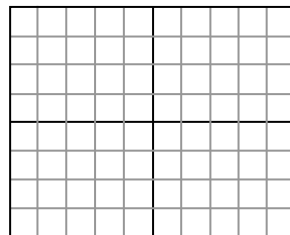
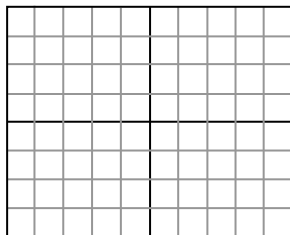
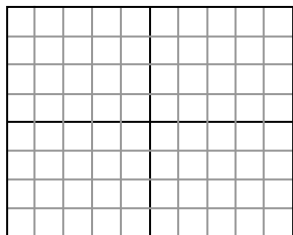
FREQUENCY = _____ \pm _____ (units)

V_{PP} = _____ \pm _____ (units)

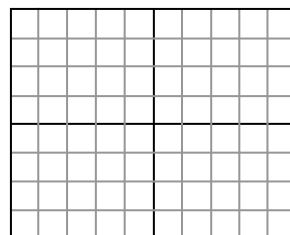
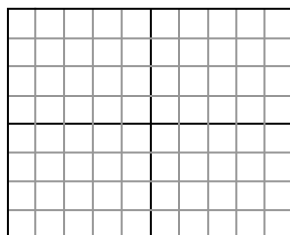
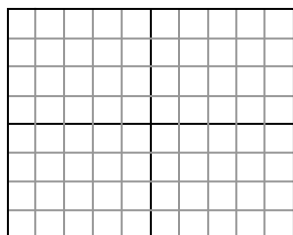
5. What voltage did you measure for the doorbell transformer with your DMM? Is this consistent with the scope measurement? (*Explain!*)

DMM VOLTAGE = _____ \pm _____ (units)

6. Sketch your Lissajous pattern(s) at 60 Hz. (*You should make more than 1 plot to show how this pattern changes during your observation.*)



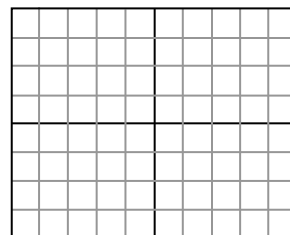
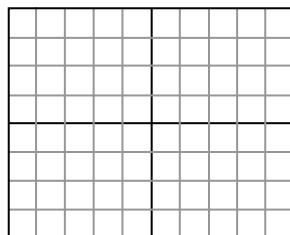
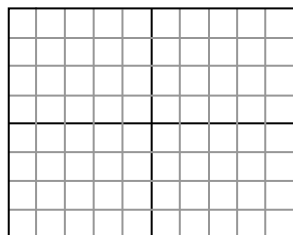
7. Sketch the pattern at 120 Hz.



8. What frequency between 60-120 Hz gives another clear Lissajous pattern?

_____ \pm _____ (units)

9. Sketch the pattern at this intermediate frequency.



10. What conditions are necessary to observe Lissajous patterns?

11. What is the tuning fork frequency you measured from your scope?

GRADE: _____
(out of 30 points)

GRADED BY _____
(TA's initials)