**QUESTIONS TO HAND IN – EXPERIMENT 1**

NAME_____

LAB INSTRUCTOR_____LAB DAY/TIME_____

1.  A standing wave pattern exhibits a wavelength $\lambda$ of 0.10 m at a frequency $f$ of 70 hertz.  What is the wave speed $v$?

2.  In this experiment, the frequency $f$ of the wave is kept constant by the tuning fork, and the speed $v$ is changed by changing the tension $T$ on the string.  How much of a change in wave speed do you need to go from a 6-loop pattern to a 3-loop pattern?

3.  The speed $v$ of waves on a string is proportional to the <u>square root</u> of the tension $T$.  By what factor does the tension have to be increased in order to increase the speed by a factor of 4?

4.  The other factor affecting the speed of waves on a string is the linear mass density $\mu$.  What would you do to change this factor?

5.  A standing wave pattern is observed with 5 loops that extend over 0.70 meters.  What is the wavelength?