

Name: \_\_\_\_\_ Lab Section: \_\_\_\_\_ Date: \_\_\_\_\_

### PreLab: Acoustic Resonance

**Instructions:** Prepare for this lab activity by answering the questions below. Note that this is a **PreLab**. It must be turned in at the start of the lab period. Time cannot be given in lab to perform PreLab activities. After the start of lab activities, PreLabs cannot be accepted. Explain your answers. Points will be taken off if your work is not neat and well organized.

Assume the speed of sound is 331 m/s.

1. (5 points) You have an open tube that is 1.43 m long.
  - a. What is the fundamental frequency and wavelength of the tube?
  
  
  
  
  
  
  
  
  
  
  - b. What is the third harmonic frequency and wavelength?
  
  
  
  
  
  
  
  
  
  
2. (5 points) You have a closed tube that is 1.43 m long.
  - a. What is the fundamental frequency and wavelength of the tube?
  
  
  
  
  
  
  
  
  
  
  - b. What is the third harmonic frequency and wavelength?
  
  
  
  
  
  
  
  
  
  
3. (5 points) How will you know when your tube is in resonance?