

**NINE**  
**UNIT 9 PROBLEMS**

Name \_\_\_\_\_

Pd. \_\_\_\_\_

1. If a wave source produces 30 pulses every 5 seconds, calculate its period and frequency.
2. A wave tank produces a wave every 0.25 seconds with  $\lambda = 5$  cm. What is wave speed?
3. A 80 cm-long string fixed at both ends vibrates with a frequency of 440 Hz. Sketch the first three harmonics and calculate the wave speeds of each.
4. In an experiment to calculate the speed of sound, a 480 Hz tuning fork causes resonance in an 18 cm-long closed tube. Calculate the speed of sound.
5. Calculate the fundamental frequency (1st harmonic) for an open tube of length 1.25 m. Use  $v = 340$  m/s.