Mr. Bosworth
General Physics **Name_____**
Sound Worksheet #2 **Period_____**

1. What is the fundamental frequency of a guitar string that is .750 m long and vibrates at 320 m/s?

Answer_____

2. How long is a string on a violin when the 3rd overtone is 1024 Hz and the speed of the wave on the string is 266 m/s?

Answer_____

3. A trumpet creates a fundamental sound of 880 Hz. What is the effective length of the sound column in the trumpet?

Answer_____

4. What is the frequency of the 5th harmonic of a fundamental frequency of 390 Hz from blowing into a bottle that is .221 m long?

Answer_____

5. What is the speed of sound in air if a saxophone has an effective length of .625 m and creates a fundamental frequency of 281 Hz.

Answer_____

6. What is the temperature of the air in #5?

Answer_____

7. A person in a car is driving 60.0 km/h toward a stationary ferry whose whistle is blowing at 400.0 Hz. What frequency does the person hear?

Answer_____

8. The ferry in #7 leaves the dock and heads directly away from the car at 15 km/h still blowing the whistle. What frequency does the person now hear?

Answer_____

9. The siren from an ambulance has a frequency of 2500 Hz. In your stopped car you hear a frequency of 2400 Hz. How fast is the ambulance moving?

Answer_____

10. A 4000 Hz frequency from a police car is chasing you at 30.0 m/s while you are running at 9.00 m/s. You hear a frequency of 4270 Hz. What is the temperature of the air?

Answer_____