Name: _____ Period: _____

Doppler Effect Worksheet

1. What is the frequency heard by a person driving at 15 m/sec toward a blowing factory whistle (f = 800 hz) if the speed of sound is 340.6 m/sec?

2. From the previous problem, what frequency would he hear after passing the factory if he continues at the same speed?

3. A car approaching a stationary observer emits 450 Hz from its horn. If the observer detects a frequency of 470 Hz, how fast is the car moving?

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While standing near a railroad crossing, a person hears a distant train horn. According to the train's engineer, the frequency emitted by the horn is 440 hz. The train is traveling at 20.0 m/sec and the speed of sound is 346 m/sec.

4. What would be the wavelength of the train's horn if the train were at rest?

5. By how much is the horn's wavelength changed as a result of the train's motion?

6. What is the adjusted wavelength that reaches the bystander as the train approaches the crossing?

7. What is the adjusted wavelength that reaches the bystander once the train has passed the crossing?