PHYS 201 Doppler Effect Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is Doppler Effect?

2. The Doppler effect expression for the observed frequency is given below. Describe each term in the expression.



3. An ambulance is moving with its siren on while you are driving in front of it. The speed of the ambulance is 22 m/s and the siren on the ambulance produces a sound of frequency 960 Hz. Your speed is 18 m/s. The speed of sound in air is 343 m/s.

a. What is the frequency of the sound you hear when you are in front of the ambulance?  
(ans: 972 Hz)

b. What is the frequency of the sound you hear when you are behind the ambulance? (ans: 949 Hz)