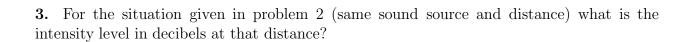
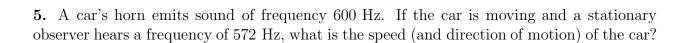
Phys 2010 (NSCC), Spring 2007 Problem Set #12

1. Transverse waves with a speed of $80.0 \frac{m}{s}$ are to be produced on a stretched string. A 5.00-m length of string with a total mass of 0.060 kg is used. What is the required tension in the string?

2. An outside speaker (which you can consider to be an isotropic source) emits sound waves with a power output of 150 W. Find the intensity 20.0 m from the source.



4. A commuter train passes a passenger platform at a constant speed of $45.0 \frac{\text{m}}{\text{s}}$. The train horn is sounded at its characteristic frequency of 420 Hz. What frequency is heard by a person on the platform as the train approaches?



6. If a listener runs toward the car in problem 5 at a speed of $15.0 \frac{m}{s}$, what frequency does he hear?