

Physics 1210
Homework 13 Written-out Problems

1.

Indiana Jones is riding a motorcycle at 15 m/s, chasing car #1 moving in the same direction at 35 m/s. Behind Indy is car #2, chasing him at 20 m/s. Both cars have horns blaring at a frequency of 390 Hz. Assume the speed of sound in air is 340 m/s

A) What frequency does James hear from car #1's horn?

B) What frequency does James hear from car #2's horn?

2.

You are out on the ocean 35 m from a boat when you hear a horn from the boat. Your friends on a neighboring boat 10 meters away hear the horn as well. The horn has a power of 55 W. What is the intensity in metric units and in dB heard by your friends, yourself?