
Task #1

You are in a convertible traveling at 45 m/s. The car in front of you is only traveling at 30 m/s. It has a broken muffler and emits a sound with a frequency of 200 Hz. What frequency do you hear?

Task #2

A train is moving towards an observer at a speed of 20 m/s. The observer is moving towards the train at a speed of 5 m/s. The observer hears a frequency of 550 Hz. Calculate the frequency of the sound emitted by the train.

Task #3

A fire truck is moving towards an observer at a speed of 25 m/s. The truck's siren emits a sound at a frequency of 700 Hz. The observer, who is also moving toward the truck, hears the sound at a frequency of 800 Hz. Calculate the speed of the observer.
