

4. A pipe is 18.5 cm long and open on one of its ends. (a) What are the frequencies of the first three harmonics that resonate in the pipe? (b) What is the wavelength of the third harmonic?

5. An FM radio station's basic frequency has a wavelength of 2.67 m. What is its frequency?

6. You have this really hot new car. It has one of the most outstanding sound systems available. Anyway it can like go faster than sound! So. When you are tooling down the test strip at Mach 2 (twice the speed of sound), could you hear the stereo? Explain the reasoning for your answer, whatever it is.

7. A frictionless pulley has a light string over the thing attached to two masses as shown. The first mass, m_1 , is 5.34 g and the second mass, m_2 , is 5.39 g. Find (a) the acceleration of the system and (b) the tension in the string.

