

Assignment Sound

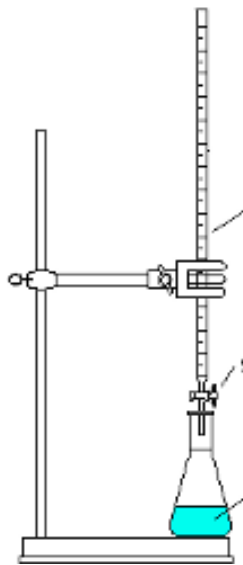
Due June 10, 2020

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Name:

1.
 - a. A piano string has a frequency of 240 Hz. A piano tuner changes its tension from 90 to 160 N. What is the string's new frequency?
 - b. A string 80.0 cm long has a frequency of 420 Hz when under a tension of 96 N. What frequency does the string have when its length is increased to 100 cm and its tension is reduced to 72 N?

2. Quinn fills a long tube with a tap at the bottom with water. As Quinn releases the water slowly Magnus blows a stream of air over the opening at the top. When 10 cm of water is released the sound intensity goes up. What is the wavelength of the sound? How much more water would they need to release to hear the 5th resonant frequency?



Tube filled with water is considered a closed pipe.