

Problem # 1

- a) - What are the three longest wavelengths for standing waves on a 240 cm long string that is fixed at both ends?
- b) - If the frequency of the second longest wavelength is 50 Hz, what is the frequency of the third longest wavelength?

Problem # 2

A sheet of glass is coated with 500 nm thick layer of oil ($n = 1.42$)

- a) - For what visible wavelengths of light do the reflected waves interfere constructively?
- b) - For what visible wavelengths of light do the reflected waves interfere destructively?
- c) - What is the color of reflected light and transmitted light?