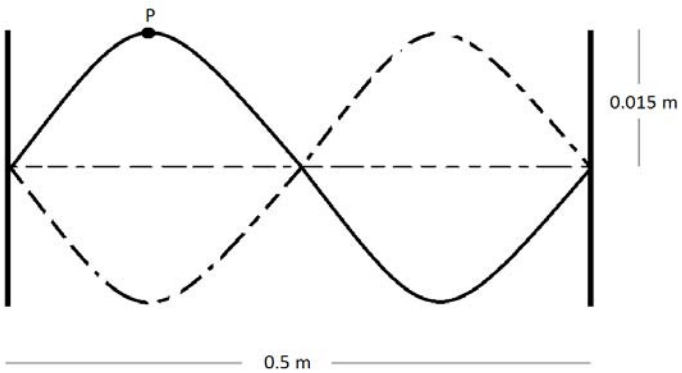
11-1)

Consider a 0.5 m long string fixed at both ends, under a tension of 1N. A standing wave is produced with the envelope as shown in the figure. One cycle of the vibration requires 0.096 seconds.



a) What is the period of the wave?
b) What is the frequency of the wave?
c) What is the wavelength of the wave?
d) In what harmonic is the string vibrating, *i.e.,* what is n?
e) What is the speed of the wave along the string?
f) What is the mass of the string?
g) What is the maximum speed of the piece of string labeled P?