

Chapter 16

Problem 16

Tension is constant

a) Rank waves from smallest to largest wavelength

C - full oscillation in 4 units along x-axis

A - full oscillation in 6 units

B - full oscillation in 8 units

b) Rank from lowest frequency to highest
since tension is constant, then
velocity is constant.

$$v = f \cdot \lambda \text{ so } f = \frac{v}{\lambda}$$

frequency is inversely proportional
to wavelength.

∴ as wavelength increases,
frequency decreases

Then
from lowest to high frequency

B - lowest

A

C - highest