

Assignments

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Given that

$$Y=0.3\sin(0.157x)\cos(2\pi t)\dots\dots\dots\text{eqa 1}$$

But.

We know that

$$Y=A\sin(Kx)\cos(\omega t)\dots\dots\dots\text{equ 2}$$

From 1 and 2

Comparing both the equation

$$K=0.157$$

We know

$$k = 2\pi/\lambda$$

$$0.157 = 2\pi / \lambda$$

$$\lambda = 2\pi/0.157\dots\dots\pi=22/7 = 3.14159$$

$$\lambda = 40\text{m}$$

Therefore ..

The length of the string =

$$L= n \times \lambda/2$$

$$4 \times 40\text{m}/2$$

$$80\text{m}$$

The length of the string is 80m