

# NCERT ANALOG - 11.15 - Q20

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**Question:**

A travelling harmonic wave on a string is described by

$$y(x, t) = 7.5 \sin (0.0050x + 12t + \pi/4)$$

(a) what are the displacement and velocity of oscillation of a point at  $x = 1$  cm, and  $t = 1$  s ? Is this velocity equal to the velocity of wave propagation?

(b) Locate the points of the string which have the same transverse displacements and velocity as the  $x = 1$  cm point at  $t = 2$  s, 5 s and 11 s.