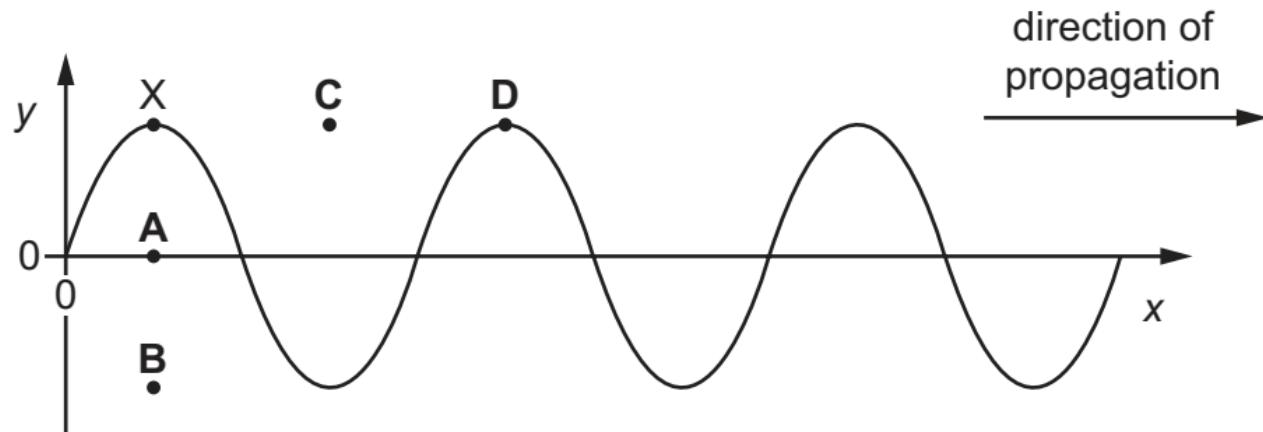


- 22 The variation with distance  $x$  of the displacement  $y$  of a transverse wave on a rope is shown at time  $t = 0$ .

The wave has a frequency of 0.5 Hz.

A point X on the rope is marked. The diagram shows the original position of X and four new positions.

What is the position of X at time  $t = 1\text{ s}$ ?



- 23 A sound wave is detected by a microphone. The output from the microphone is connected to the