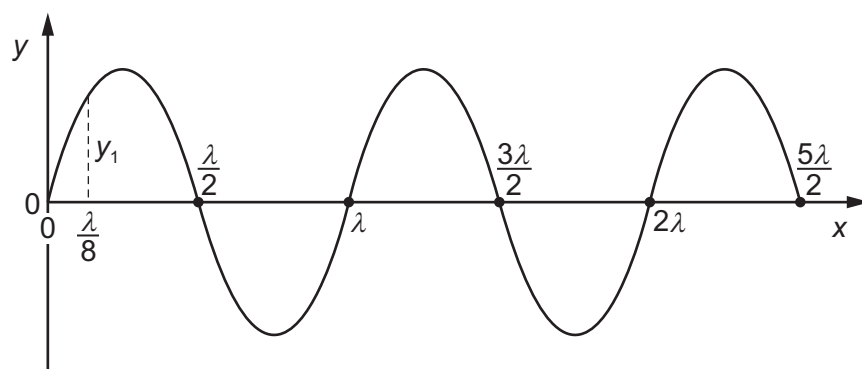


- 24** A transverse progressive wave of wavelength λ is set up on a stretched string. The graph shows the variation of displacement y with distance x at a particular instant of time. The displacement where distance $x = \frac{\lambda}{8}$ is y_1 .



What are the next two values of x where the displacement y is again equal to y_1 ?

- A** $\frac{3\lambda}{8}$ and $\frac{5\lambda}{8}$
- B** $\frac{3\lambda}{8}$ and $\frac{9\lambda}{8}$
- C** $\frac{5\lambda}{8}$ and $\frac{9\lambda}{8}$
- D** $\frac{9\lambda}{8}$ and $\frac{17\lambda}{8}$
- 25** A man standing next to a stationary train hears sound of frequency 400 Hz emitted from the train's horn. The train then moves directly away from the man and sounds its horn when it has a speed of 50 ms^{-1} . The speed of sound is 340 ms^{-1} .

What is the difference in frequency of the sound heard by the man on the two occasions?

- A** 51 Hz **B** 69 Hz **C** 349 Hz **D** 469 Hz