

- 18 The diagram illustrates the displacement of particles in a longitudinal progressive wave of frequency  $f$  at an instant in time.



What is the time taken for a wavefront to travel the distance from P to Q?

A  $\frac{1}{4f}$

B  $\frac{1}{2f}$

C  $\frac{1}{f}$

D  $\frac{2}{f}$