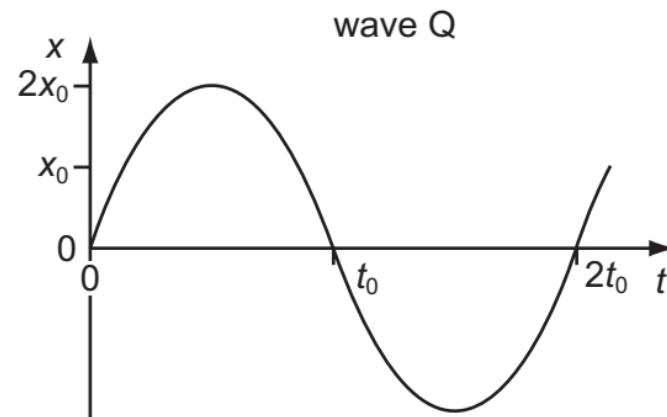
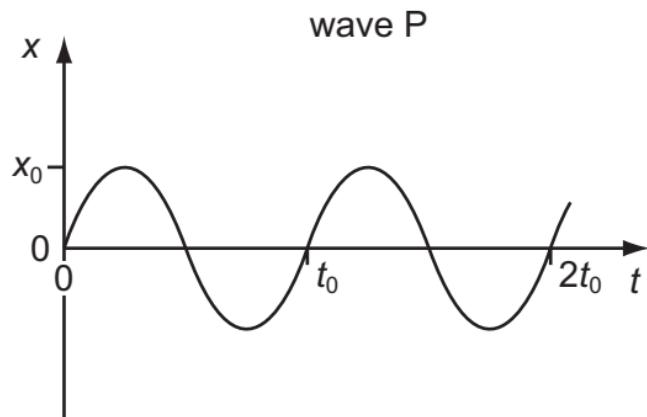


- 24** The intensity of a progressive wave is proportional to the square of the amplitude of the wave. It is also proportional to the square of the frequency.

The variation with time t of displacement x of particles in a medium, when two progressive waves P and Q pass separately through the medium, are shown on the graphs.



The intensity of wave P is I_0 .

What is the intensity of wave Q?

A $\frac{1}{2}I_0$

B I_0

C $8I_0$

D $16I_0$

- 25** A sound wave of frequency 150 Hz travels in water at a speed of 1500 m s^{-1} . It then travels