2 Fig. 2.1 shows the variation with distance x along a wave of its displacement d at a particular time.

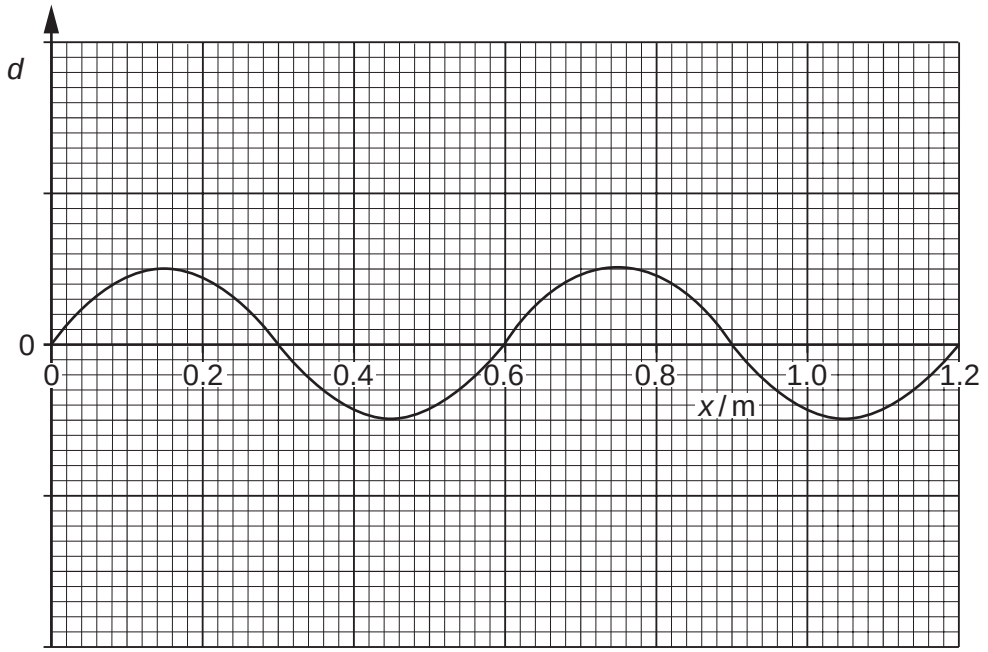

Fig. 2.1

The wave is a progressive wave having a speed of 330 m s^{-1}.

(a) (i) Use Fig. 2.1 to determine the wavelength of the wave.

wavelength = ... m

(ii) Hence calculate the frequency of the wave.

frequency = ... Hz
[3]

(b) A second wave has the same frequency and speed as the wave shown in Fig. 2.1 but has double the intensity. The phase difference between the two waves is 180°.

On the axes of Fig. 2.1, sketch a graph to show the variation with distance x of the displacement d of this second wave. [2]