BTECRevision

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PHYSICS

FREE SAMPLE

UNIT 3 · EXAM PRACTICE

Paper 1 — Question 1 with its mark scheme

A complete opening question from the existing bundle. The full product contains two 60-minute, 50-mark papers and two detailed mark schemes.

Try the questions before reading the included solutions.

Extract pages retain their original page numbers.

Independent original practice. Not an official Pearson assessment.

Aligned to Pearson AAQ Applied Science, specification Issue 7 (May 2026).

Question 1 - Reading a wave

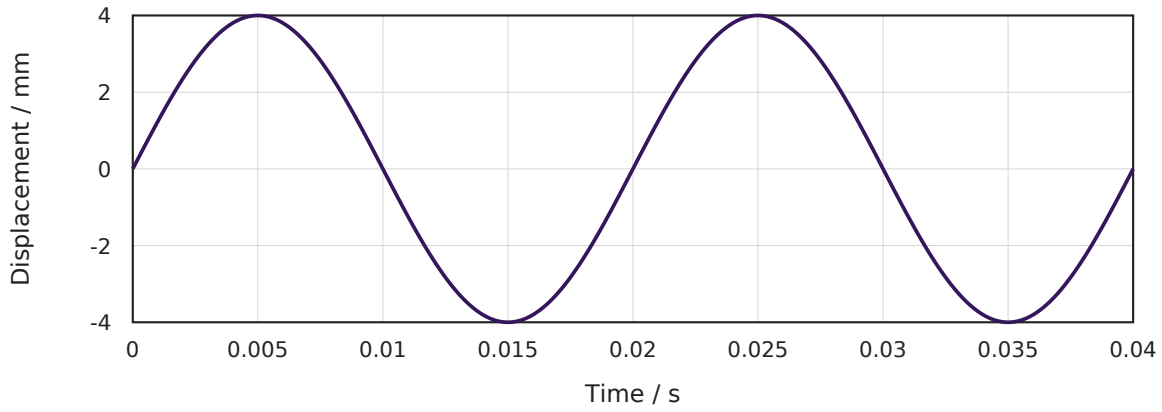


Figure 1. Displacement-time graph for one point on a wave. Successive peaks are at 0.005 s and 0.025 s.

(a) Which quantity is measured in hertz? Tick one box. **(1)**

- ☐ A Wavelength
- ☐ B Amplitude
- ☐ C Frequency
- ☐ D Period

(b) Use Figure 1 to state the amplitude and period of the oscillation. **(2)**

(c) Calculate the frequency of the wave. **(2)**

(d) The wavelength is 0.680 m. Calculate the wave speed. **(2)**

(e) State how particle oscillation is oriented relative to propagation for a transverse wave. **(1)**

Total for Question 1 = 8 marks

Question 1 - Reading a wave

1(a) | 1 marks
C: frequency (1). More than one choice scores zero.

1(b) | 2 marks
Amplitude = 4.0 mm (1); period = 0.020 s (1). Accept amplitude 3.8-4.2 mm and period 0.019-0.021 s from the graph. Amplitude is not 8 mm.

1(c) | 2 marks
f = 1/T = 1/0.020 (1); 50 Hz (1). Allow ECF from a clearly stated period in (b), with unit.

1(d) | 2 marks
v = f lambda = 50 x 0.680 (1); 34.0 m s^{-1} (1). Allow ECF from (c). Accept 34 m s^{-1}.

1(e) | 1 marks
Perpendicular / at right angles to the direction of wave travel (1).

Total for Question 1 = 8 marks