OCR
Oxford Cambridge and RSA

A level Physics B

H557/01 Fundamentals of physics

Question Set 12

1. **(a)** **Fig. 1** shows a displacement *s* against time *t* graph for the motion of a swing in simple harmonic motion.

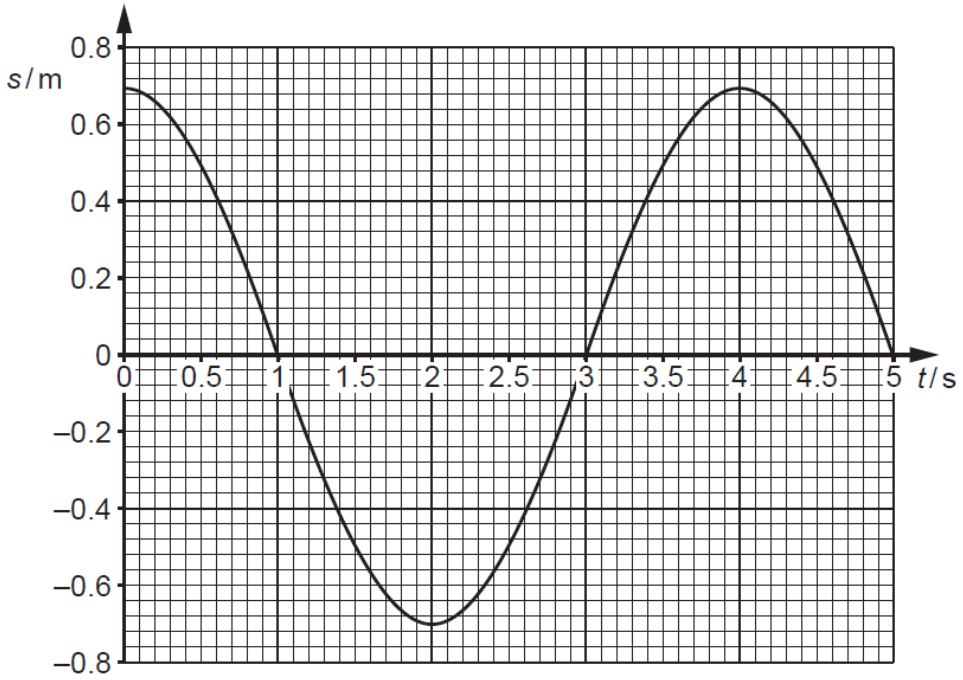

Fig. 1

Use **Fig. 1** to find the magnitude of the maximum velocity of the swing. Make your method clear.

velocity =.....m s^{-1}

[2]

(b) On **Fig.2** scale the *y*-axis suitably and draw the velocity *v* against time *t* graph for this motion.

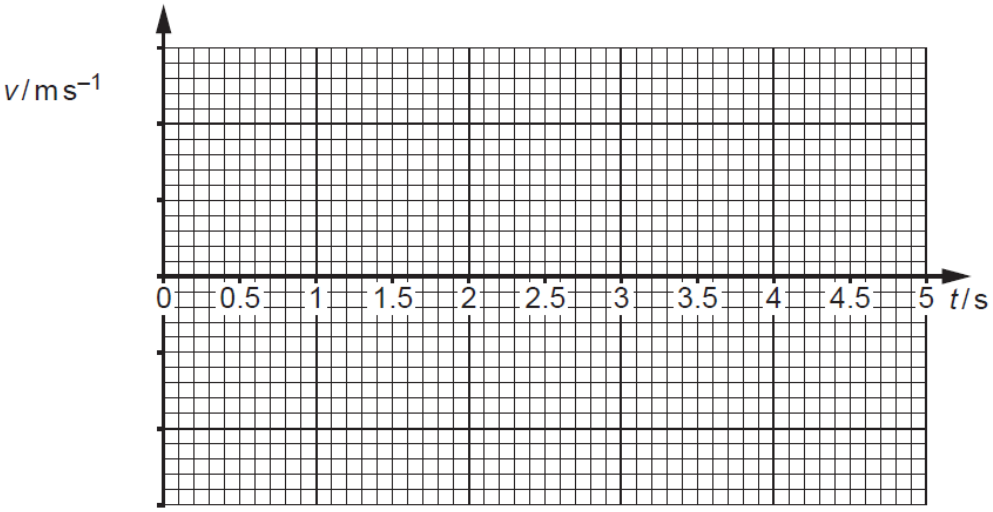

Fig. 2

[2]

(c) Show that the length of the simple pendulum having the same time period as the swing in **Fig.1** is less than 4.0 m.

[2]

Total Marks for Question Set: 6