Answer **all** the questions in the spaces provided.

1 A block is held at rest on a straight, frictionless slope. The slope is at an angle to the horizontal bench, as shown in Fig. 1.1.

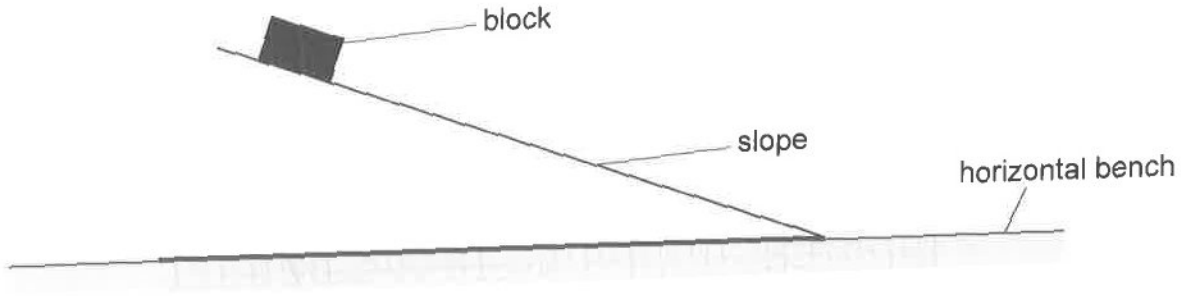

Fig. 1.1

The block is then released from rest at time $t = 0$.

(a) Describe the motion of the block down the slope.

.....

..... [1]

.....

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(b) The variation with time t of the displacement s of the block is shown in Fig. 1.2.

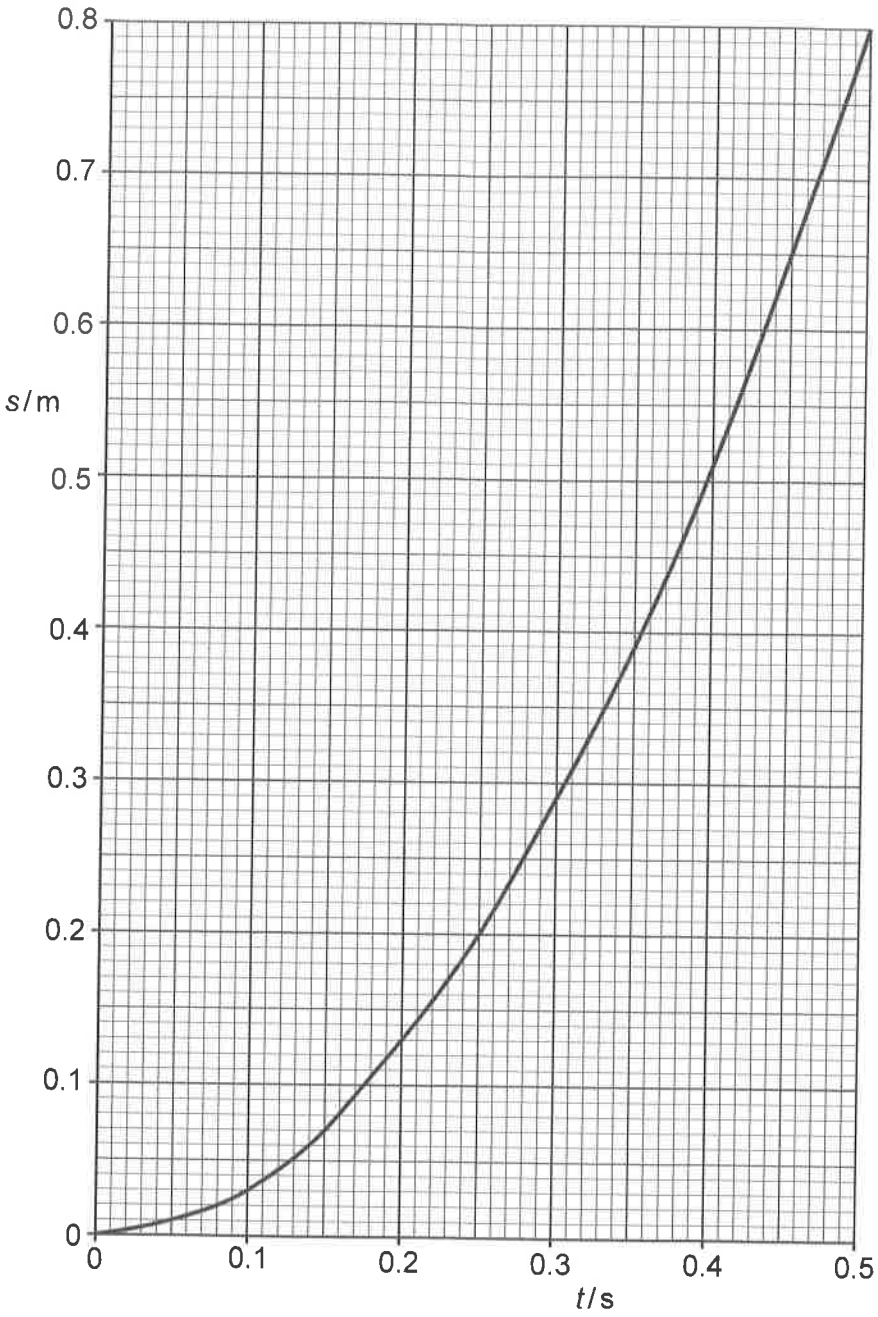

Fig. 1.2

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(i) On Fig. 1.2, draw a tangent to determine the speed of the block at time $t = 0.20\,s$.

speed = ... $m\,s^{-1}$ [2]

(ii) Use your answer in **(b)(i)** to determine the acceleration of the block at time $t = 0.20\,s$.

acceleration = ... $m\,s^{-2}$ [2]

[Total: 5]

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