

Chapter 7.2

Question 1

Exam Q

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(4 marks)

A runway at a small airport is 1220 m long. A light aircraft accelerates at 0.785 m s^{-2} along this runway, starting at one end and taking off 200 m before reaching the other end. If the aircraft was initially stationary, calculate its speed when it took off. Show **all** workings, and give the appropriate unit.

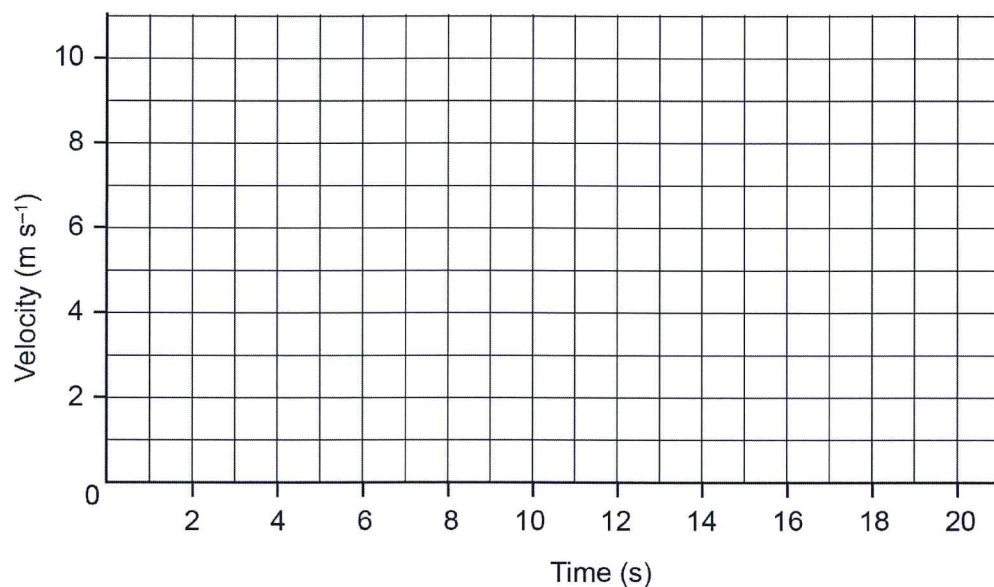
Question 2

(5 marks)

Jill begins from rest and after 1.0 s is moving at a velocity of 8.0 m s^{-1} for 9.0 s. She then takes 3.0 s to slow down to 2.0 m s^{-1} and continues at this velocity.

- (a) Graph Jill's motion on the velocity-time graph below from the information given above.

(2 marks)



- (b) Calculate Jill's acceleration between the 10th and the 13th second.

(3 marks)