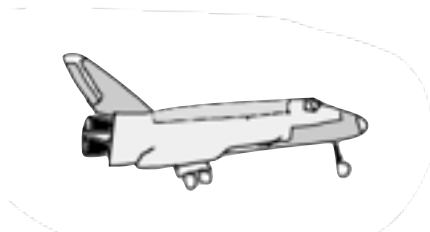


- 1 The diagram shows a space orbiter about to touch down on a runway. There is also data about its motion.



Velocity at touch down	= 110 m/s
Time to stop from moment of touch down	= 55 s

- 1 (a) Using the information given and the correct equation from the equation sheet, calculate the average acceleration of the orbiter from the moment of touch down.

Give the correct units.

Show your working.

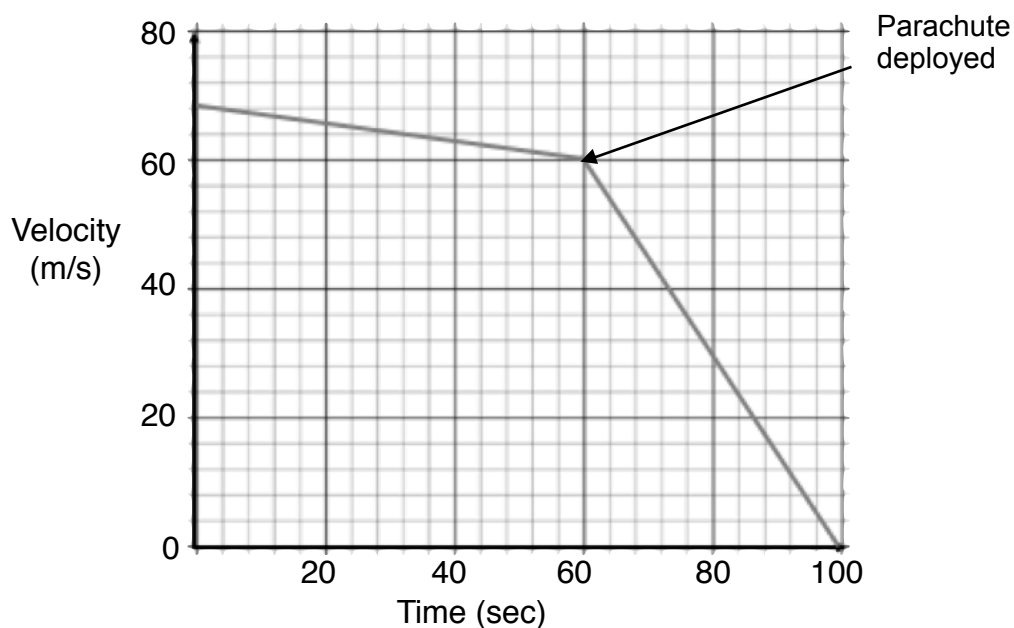
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.....

Acceleration =
(3 marks)

- 1 (b) The graph below is a velocity-time graph for the motion of the orbiter from a previous landing. A parachute is used to slow the orbiter on the runway. The graph shows the velocity of the orbiter before and after the parachute is deployed.



- 1 (b) Use the graph to calculate the gradient and therefore the deceleration of the orbiter from the point at which the parachute is deployed.

Give the correct units.

Show your working.

.....

.....

.....

Acceleration =
(3 marks)

- 2 A car accelerates from rest, to a velocity of 25 m/s in 10 seconds. Calculate the acceleration of the car. Use the correct equation, from the equation sheet.

Show your working.

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Acceleration = m/s/s
(2 marks)

Total 8 marks

End of questions

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