

AQA - Forces – GCSE Physics

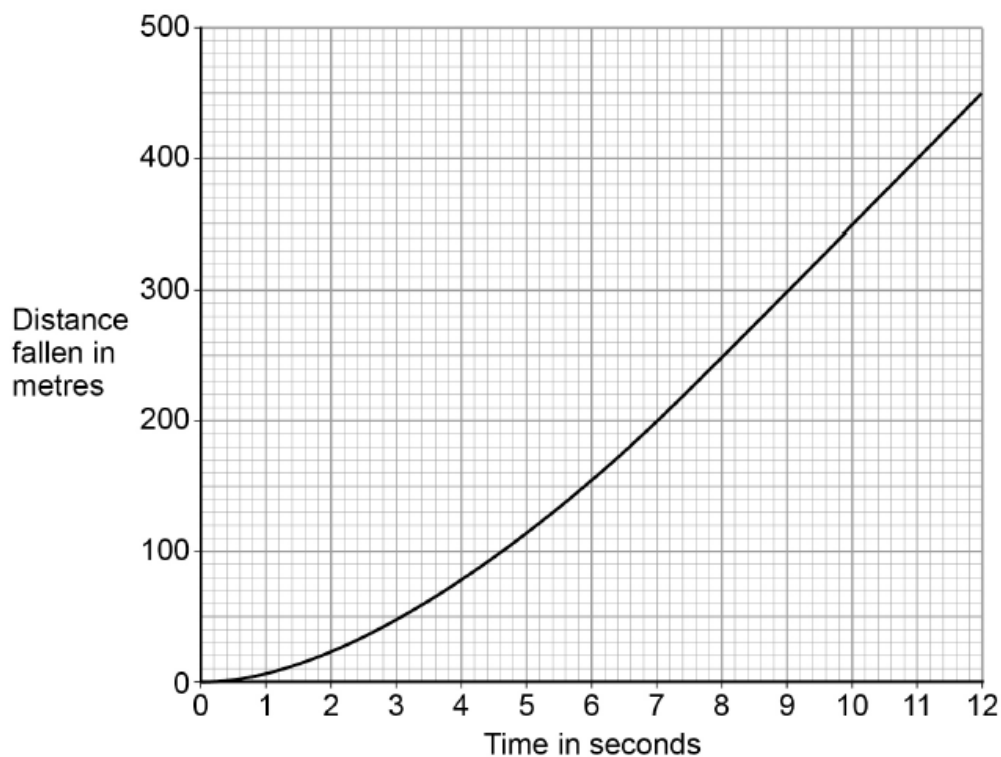
1. June/2019/Paper_2H/No.8

0 8

An aeroplane is 4000 m above the Earth's surface.

A skydiver jumps from the aeroplane and falls vertically.

Figure 15 shows the distance the skydiver falls during the first 12 seconds after jumping.

Figure 15

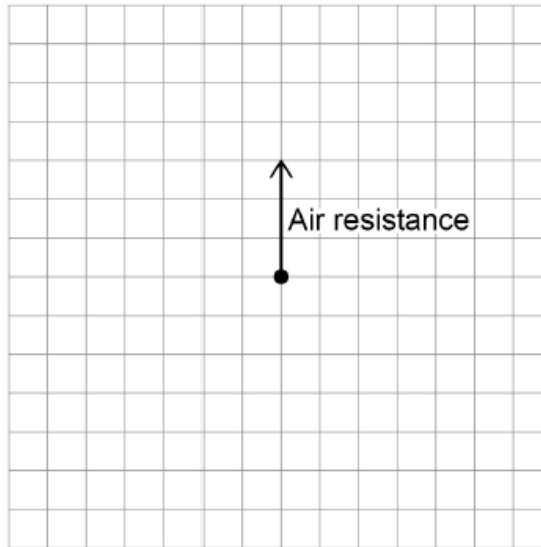
0 8 . 1

Figure 16 shows part of the free body diagram for the skydiver three seconds after jumping.

Complete the free body diagram for the skydiver.

[2 marks]

Figure 16



0 8 . 2

Explain the changing motion of the skydiver in terms of the forces acting on the skydiver.

[4 marks]

0 8 . 3

Use **Figure 15** to determine the speed of the skydiver between 7 seconds and 12 seconds.

[3 marks]

Speed = _____ m/s

0 8 . 4

In 2012 a skydiver jumped from a helium balloon 39 000 metres above the Earth's surface. The skydiver reached a maximum speed of 377 m/s

Jumping from 39 000 metres allowed the skydiver to reach a much higher speed than a skydiver jumping from 4000 metres.

Explain why.

[3 marks]
