

0	1
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During a performance, an ice skater is travelling with a velocity of 4 m/s.



0	1	.	1
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She decelerates uniformly to a velocity of 1 m/s at 0.5 m/s^2 .
How far does she travel in this time?

Distance travelled = _____ metres

[3 marks]

0	1	.	2
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Later in the performance, she accelerates at a rate of 1.2 m/s^2 from a velocity of 2.2 to a velocity of 3.1 m/s. How long does this take?

Time = _____ seconds

[2 marks]

0	2
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A bus accelerates uniformly from 0 to 50 km/h in 15 seconds. It then maintains this speed for a further 45 seconds.

0	2	.	1
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Show that 50 km/h is equivalent to a speed of approximately 13.9 m/s.

[2 marks]

0	2	.	2
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Calculate the acceleration of the bus in its first 15 seconds of motion.

Acceleration = _____ m/s^2

[2 marks]

0	2
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 .

3

Calculate the total distance travelled by the bus during this minute.

Distance = _____ m

[4 marks]

0	3
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A car accelerates uniformly from rest to its top speed of 40 m/s at a rate of 4 m/s².



0	3
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 .

1

Calculate the distance which the car travels whilst accelerating to its top speed.

Distance travelled = _____ metres

[3 marks]

0	3
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 .

2

It then travels at its top speed for some time, before decelerating to rest at a rate of 8 m/s². If it travelled a distance of 1 km in total, how long did its journey take?

Time taken = _____ seconds

[6 marks]

0	3
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 .

3

Calculate the average speed of the car for its whole journey.

Average speed = _____ m/s

[2 marks]