

9K Speeding up...How forces affects speed

level 5
level 6
level 7

plenary one

Science Interactive LTD. PO BOX 50764 LONDON NW6 9AT email: sales@science-interactive.co.uk

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Match the following statements:



Click mouse to reveal answer

The size of a force is measured in...



An object travelling at 10ms^{-1} .

When a car slows during braking, its kinetic energy is...



The downward force of gravity is equal and opposite to the upward force of air resistance.

Terminal velocity of a falling object is reached when...



They need to accelerate faster than other normal cars.

An object travelling at 20ms^{-1} covers twice the distance in the same time as...



Is an example of Newton's second law of motion.

The force of a car's engine accelerating the car's mass in a forward direction...



Newtons.

Sports cars have large powerful engines because...



Converted into heat energy.

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Answer:

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Sports cars have large powerful engines because...

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The speed of a moving object describes the distance covered in metres over time in seconds. Calculating the speed in metres per second of an object is simple using the following formula:

$$\text{Speed (ms}^{-1}\text{)} = \frac{\text{Distance travelled (m)}}{\text{Time taken (s)}}$$



Click mouse to reveal answer

	Lorry	Sports car	Cyclist	Sprinter
Diagram				
Distance (m)	2000m	2000m	2000m	2000m
Time taken (s)	150s	60s	200s	400s
Speed (ms ⁻¹)	_____ ?	_____ ?	_____ ?	_____ ?

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Answer:

	Lorry	Sports car	Cyclist	Sprinter
Diagram				
Distance (m)	2000m	2000m	2000m	2000m
Time taken (s)	150s	60s	200s	400s
Speed (ms ⁻¹)	2000m/150s = 13.33ms ⁻¹	2000m/60s = 33.33ms ⁻¹	2000m/200s = 10ms ⁻¹	2000m/400s = 5ms ⁻¹

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plenary three

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Which graphs (A,B,C or D) shows an object with (i) the lowest constant acceleration (ii) the highest constant acceleration (iii) Constant velocity, zero acceleration (iv) Constant deceleration:



Click mouse to reveal answer

	Graph one	Graph two	Graph three	Graph four
Diagram				
Highest acceleration	Highest acceleration	Highest acceleration	Highest acceleration	Highest acceleration
Lowest acceleration	Lowest acceleration	Lowest acceleration	Lowest acceleration	Lowest acceleration
Constant velocity	Constant velocity	Constant velocity	Constant velocity	Constant velocity
Constant deceleration	Constant deceleration	Constant deceleration	Constant deceleration	Constant deceleration

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Answer:

	Graph one	Graph two	Graph three	Graph four
Diagram				
		Highest acceleration		
	Lowest acceleration			
			Constant velocity	
				Constant deceleration