

Review Questions # 2
Motion in One dimension

1. What is the average speed in m/s of a cheetah that sprints 100 *m* in 4 *seconds*
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2. How far in km does a horse travel if it gallops at an average speed of 25 *km/h* for 30 *min*
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3. Distinguish between speed and velocity
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4. Do the units of *m/s* apply to:(a)speed, (b) average velocity, (c) instantaneous velocity, or all of the preceding
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5. If a car moves with constant velocity, does it also move with a constant speed? Explain
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6. Is the speedometer reading of a car a measure of (a) instantaneous speed, (b) average speed, (c) instantaneous velocity, or (d) average velocity
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7. Is acceleration the time rate of change of (a) speed, (b) velocity, (c) displacement, or (d)distance
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8. What is the average acceleration in *km/h²* of a car moving in the positive direction that increases its speed from 0 to 100 *km/h* in 30 *min*
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9. What is the acceleration of a car that maintains a constant velocity of 100 *km/h* in the positive direction for 1 *hour*
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10. Consider an object in free fall starting from rest:
 - (a) What is the speed of the object after 3 *s*

(b) What is the distance traveled by the object after 3 s.



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