

## Acceleration Problems

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### *Basic Concepts*

1. What is meant by the term *acceleration*?
2. What is the mathematical definition of *acceleration*?
3. What are three ways you can accelerate?
4. If you have an acceleration of 0, what must you be doing?

### *Problems*

1. If you are driving along and the speedometer always reads 20 mph, could you be accelerating? Explain.
2. What must be happening to your velocity for you to be experiencing a constant acceleration?
3. If a cheetah can maintain a constant velocity of 25 m/s, what is the cheetah's acceleration?
4. A car initially at rest speeds up by 3.0 m/s every second for 15 seconds.
  - a. What is the acceleration of the car?
  - b. What will be the car's final velocity at the end of the 15 seconds?
5. A car is traveling at 11 m/s. If it slows down at the rate of 2 m/s every second, how fast will it be going after 3.0 s?
6. Jack accelerates his car from 50 km/hr to 65 km/hr in 5 seconds. Sue accelerates her car from rest to 15 km/hr in the same time. Which one undergoes the greatest acceleration? Explain.

