

## SECTION REVIEW

1. Marissa's car accelerates uniformly at a rate of  $+2.60 \text{ m/s}^2$ . How long does it take for Marissa's car to accelerate from a speed of  $24.6 \text{ m/s}$  to a speed of  $26.8 \text{ m/s}$ ?
2. A bowling ball with a negative initial velocity slows down as it rolls down the lane toward the pins. Is the bowling ball's acceleration positive or negative as it rolls toward the pins?
3. Nathan accelerates his skateboard uniformly along a straight path from rest to  $12.5 \text{ m/s}$  in  $2.5 \text{ s}$ .
  - a. What is Nathan's acceleration?
  - b. What is Nathan's displacement during this time interval?
  - c. What is Nathan's average velocity during this time interval?
4. **Critical Thinking** Two cars are moving in the same direction in parallel lanes along a highway. At some instant, the instantaneous velocity of car A exceeds the instantaneous velocity of car B. Does this mean that car A's acceleration is greater than car B's? Explain, and use examples.
5. **Interpreting Graphics** The velocity-versus-time graph for a shuttle bus moving along a straight path is shown in **Figure 13**.
  - a. Identify the time intervals during which the velocity of the shuttle bus is constant.
  - b. Identify the time intervals during which the acceleration of the shuttle bus is constant.
  - c. Find the value for the average velocity of the shuttle bus during each time interval identified in **b**.
  - d. Find the acceleration of the shuttle bus during each time interval identified in **b**.
  - e. Identify the times at which the velocity of the shuttle bus is zero.
  - f. Identify the times at which the acceleration of the shuttle bus is zero.
  - g. Explain what the slope of the graph reveals about the acceleration in each time interval.
6. **Interpreting Graphics** Is the shuttle bus in item 5 always moving in the same direction? Explain, and refer to the time intervals shown on the graph.

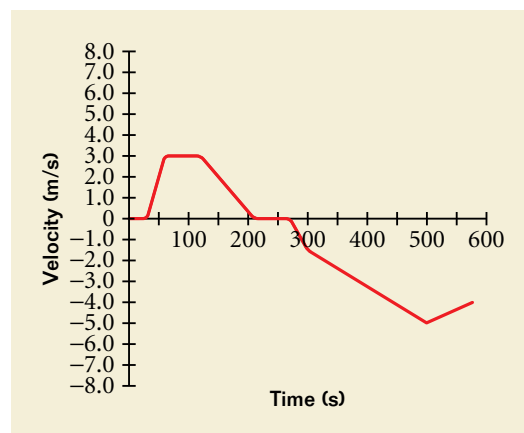


Figure 13