SECTION REVIEW

1. A coin is tossed vertically upward.

a. What happens to its velocity while it is in the air?

b. Does its acceleration increase, decrease, or remain constant while it is in the air?

2. A pebble is dropped down a well and hits the water 1.5 s later. Using the equations for motion with constant acceleration, determine the distance from the edge of the well to the water's surface.

3. A ball is thrown vertically upward. What are its velocity and acceleration when it reaches its maximum altitude? What is its acceleration just before it hits the ground?

4. Two children are bouncing small rubber balls. One child simply drops a ball. At the same time, the second child throws a ball downward so that it has an initial speed of 10 m/s. What is the acceleration of each ball while in motion?

5. Critical Thinking A gymnast practices two dismounts from the high bar on the uneven parallel bars. During one dismount, she swings up off the bar with an initial upward velocity of + 4.0 m/s. In the second, she releases from the same height but with an initial downward velocity of −3.0 m/s. What is her acceleration in each case? How do the final velocities of the gymnast as she reaches the ground differ?

6. Interpreting Graphics **Figure 17** is a position-time graph of the motion of a basketball thrown straight up. Use the graph to sketch the path of the basketball and to sketch a velocity-time graph of the basketball's motion.

a. Is the velocity of the basketball constant?

b. Is the acceleration of the basketball constant?

c. What is the initial velocity of the basketball?

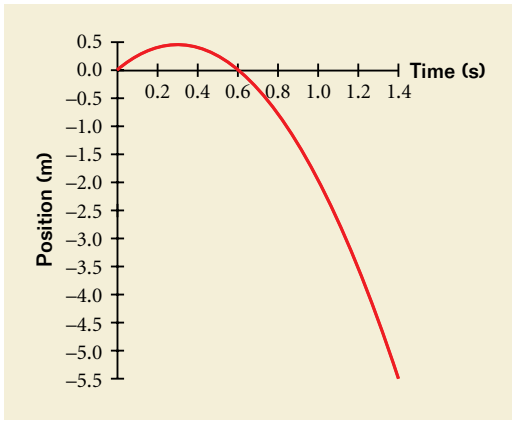

Figure 17