

## Chapter 10 Cell Growth and Division

### Section 10–1 Cell Growth (pages 241–243)

*This section explains some of the problems that growth causes for cells.*

#### Limits to Cell Growth (pages 241–243)

1. What are two reasons why cells divide rather than continue to grow indefinitely?
  - a. \_\_\_\_\_  
\_\_\_\_\_
  - b. \_\_\_\_\_  
\_\_\_\_\_
2. Is the following sentence true or false? As a cell increases in size, it usually makes extra copies of its DNA. \_\_\_\_\_
3. Circle the letter of what determines the rate at which food and oxygen in a cell are used up and waste products produced.
  - a. The cell's organelles
  - b. The cell's volume
  - c. The cell's location
  - d. The cell's DNA
4. How can you obtain a cell's ratio of surface area to volume? \_\_\_\_\_  
\_\_\_\_\_
5. If a cell's surface area is  $6 \text{ cm}^2$  and its volume is  $1 \text{ cm}^3$ , then what is its ratio of surface area to volume? \_\_\_\_\_
6. Is the following sentence true or false? As a cell grows in size, its volume increases much more rapidly than its surface area. \_\_\_\_\_
7. Circle the letter of what happens to a cell's ratio of surface area to volume as the cell's volume increases more rapidly than its surface area.
  - a. The ratio decreases.
  - b. The ratio increases.
  - c. The ratio remains the same.
  - d. The ratio disappears.

#### Division of the Cell (page 243)

8. What is cell division? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. How does cell division solve the problem of increasing size? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_