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   **c.** The cell's location

   b. The cell's volume   **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 cm^3 and its volume is 1 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.   **c.** The ratio remains the same.

   b. The ratio increases.   **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? _____

   _____

   _____