Name_____Hour_____

Section 10-1 Cell Growth (pages 241-243)

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? _____

_____

Name_____Hour_____

Section 10-2 Cell Division (pages 244-249)

Chromosomes (page 244)

1. Is the following sentence true or false? Chromosomes are not visible in most cells except during cell division._____

2. When chromosomes become visible at the beginning of cell division, what does each chromosome consist of? _____

_____

3. Each pair of chromatids is attached at an area called the_____

The Cell Cycle (page 245)

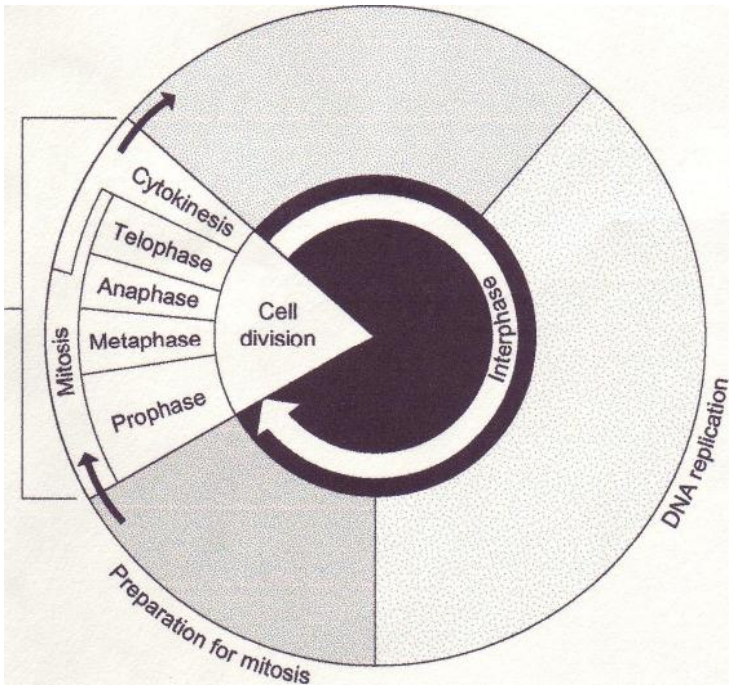
4. The period of growth in between cell divisions is called_____

5. What is the cell cycle _____

_____

6. Complete the diagram of the cell cycle by writing the names of each of the four phases.

Cell Growth



7. The division of the cell nucleus during the M phase of the cell cycle is called_____

Events of the Cell Cycle (page 245)

8. Interphase is divided into what three phases?

a._____ b._____ c._____

9. What happens during the G_1 phase? _____

_____

_____

10. What happens during the S phase? _____

_____

_____

11. What happens during the G_2 phase? _____

_____

_____

Mitosis (pages 246-248)

12. What are the four phases of mitosis?

a._____ c._____

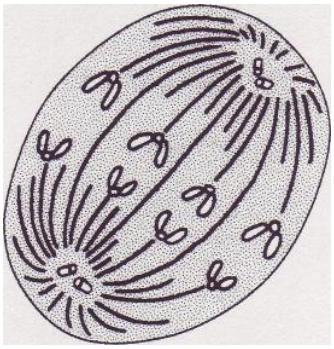
b._____ d._____

13. What are the two tiny structures located in the cytoplasm near the nuclear envelope at the beginning of prophase? _____

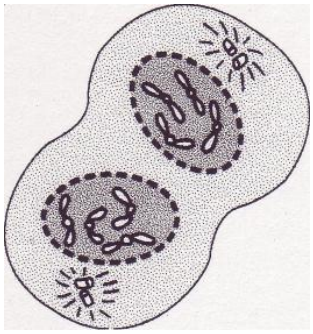
14. What is the spindle? _____

_____

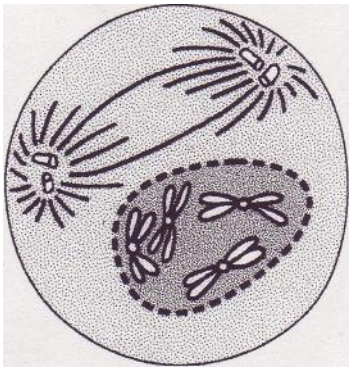
15. Identify each of the four phases of mitosis pictured below.



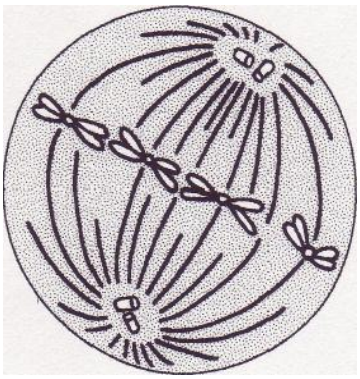
a._____



b._____



c._____



d._____

Match the description of the event with the phase of mitosis it is in. Each phase may be used more than once.

Event	Phase
_____16. The chromosomes move until they form two groups near the poles of the spindle.	a. Prophase b. Metaphase c. Anaphase d. Telophase
_____17. The chromosomes become visible.	
_____18. A nuclear envelope re-forms around each cluster of chromosomes.	
_____19. The centrioles take up positions on opposite sides of the nucleus.	
_____20. The chromosomes line up across the center of the cell.	
_____21. The nucleolus becomes visible in each daughter nucleus.	

Cytokinesis (page 248)

22. What is cytokinesis? _____

23. How does cytokinesis occur in most animal cells? _____

_____

24. Circle the letter of what forms midway between the divided nucleus during cytokinesis in plant cells.

a. cell nucleus
b. cytoplasm
c. cell plate
d. cytoplasmic organelles