

Chapter 5, continued

8. A potato cell has more chromosomes than a human cell.
True or False? (Circle one.)
9. Look at the chromosomes in Figure 13. Each of your body cells contains
- a. 23 chromosomes.
 - b. 46 pairs of homologous chromosomes.
 - c. 23 pairs of homologous chromosomes.
 - d. 48 chromosomes.

10. What's so special about pairs of homologous chromosomes?

11. In the beginning of the eukaryotic cell cycle, the cell grows and duplicates its _____ and _____.

12. Where are chromatids held together?

13. Mitosis is all of the following EXCEPT

- a. the process of chromosome separation.
- b. part of the second stage of the eukaryotic cell cycle.
- c. the process during which the cell divides.
- d. the process by which each new cell gets a copy of each chromosome.

14. The cell _____ in the third stage of the eukaryotic cell cycle.

15. How are the two new cells produced by mitosis related to the original cell?

Mitosis and the Cell Cycle (p. 118)

16. Before mitosis begins, what two types of paired cell structures are copied?

Chapter 5, continued

Use the diagrams on pages 118 and 119 to answer questions 17–20. Put the phases of mitosis in order by labeling them as Phase 1, Phase 2, Phase 3, or Phase 4.

- 17. _____ The fibers attached to the centrioles pull the chromatids to opposite sides of the cell.
- 18. _____ The chromosomes line up along the equator of the cell.
- 19. _____ The nuclear membrane forms around the two sets of chromosomes, and the chromosomes unwind. The fibers disappear.
- 20. _____ The two pairs of centrioles move to opposite sides of the cell, and fibers form between them. The fibers attach to the centromeres.

21. What does pinching have to do with the cell splitting in two?

Place the following structures in the order in which they form in eukaryotic cells with cell walls during cytokinesis. Write the appropriate number in the space provided.

- 22. _____ cell wall
- 23. _____ cell plate
- 24. _____ cell membrane

Review (p. 119)

Now that you’ve finished Section 3, review what you learned by answering the Review questions in your ScienceLog.