

Directed Reading B *continued*

20. What happens during the second stage of the cell cycle in a eukaryotic cell?

21. The four phases of mitosis are

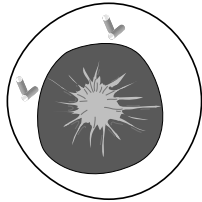
_____, _____,
_____, and _____.

22. What happens during the third stage of the cell cycle in a eukaryotic cell?

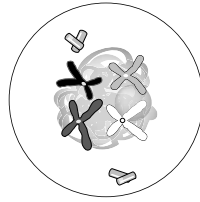
23. Before mitosis begins, _____ are copied.

Directed Reading B *continued*

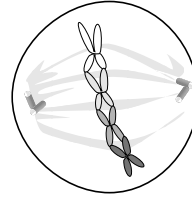
Use the diagram below to answer questions 24–29, which describe the phases of the cell cycle. Write the correct phase in the space provided for each question, using “Interphase,” “Mitosis Phase 1,” “Mitosis Phase 2,” “Mitosis Phase 3,” “Mitosis Phase 4,” or “Cytokinesis.”



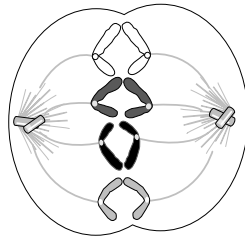
Interphase



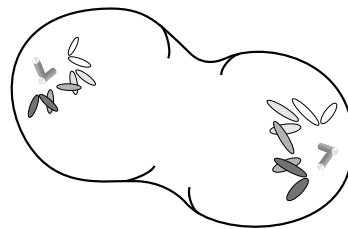
Mitosis Phase 1



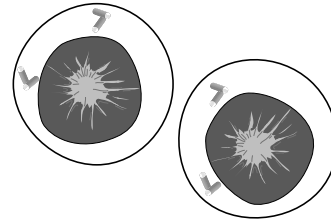
Mitosis Phase 2



Mitosis Phase 3



Mitosis Phase 4



Cytokinesis

- _____ 24. The chromatids separate and move to opposite sides of the cell.
- _____ 25. The nuclear membrane is dissolved. Paired chromosomes align at the cell’s equator.
- _____ 26. Before mitosis begins, chromosomes are copied.
- _____ 27. A nuclear membrane forms around each set of chromosomes, and the chromosomes decondense. Mitosis is complete.
- _____ 28. Mitosis begins. Chromosomes condense from long strands into rodlike structures.
- _____ 29. In cells that lack a cell wall, the cell pinches in two. In cells that have a cell wall, a cell plate forms and separates the two new cells.

Directed Reading B *continued*

30. How do animal cells without cell walls divide their cytoplasm during cytokinesis?

31. How do plant cells with cell walls divide their cytoplasm during cytokinesis?

CONTROL OF THE CELL CYCLE

_____ **32.** After which stage in the cell cycle is each new cell an exact copy of the parent cell?

- a.** interphase
- b.** mitosis
- c.** cytokinesis
- d.** prophase

_____ **33.** Which of the following report cell conditions and control the cell cycle?

- a.** feedback switches
- b.** DNA
- c.** homologous chromosomes
- d.** centromeres

34. A tumor in which the cells begin dividing at an uncontrolled rate is called

_____.