

Active Reading

Section: Mitosis and Cytokinesis

Read the passage below. Then answer the questions that follow.

During cytokinesis, the cytoplasm of the cell is divided in half, and the cell membrane grows to enclose each cell, forming two separate cells as a result.

During cytokinesis in animal cells and other cells that lack cell walls, the cell is pinched in half by a belt of protein threads.

Plant cells and other cells that have rigid cell walls have different method of dividing the cytoplasm. In plant cells, vesicles formed by the Golgi apparatus fuse at the midline of the dividing cell and form a cell plate. A cell plate is a membrane-bound cell wall that forms across the middle of the cell. A new cell wall then forms on both sides of the cell plate.

SKILL: READING EFFECTIVELY

In the space provided, match each statement with the stage of cellular division it describes. Write **a** if the statement describes cytokinesis in animal cells, write **p** if it describes cytokinesis in plant cells, or write **b** if it describes cytokinesis in both.

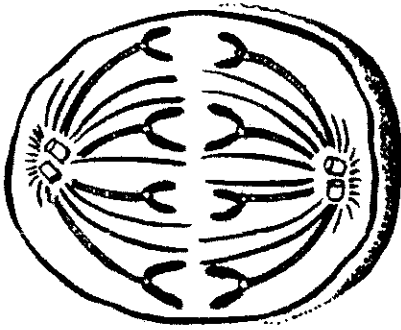
- _____ 1. The Golgi apparatus forms vesicles.
- _____ 2. Two genetically identical cells are formed.
- _____ 3. A belt of protein thread pinches the cell in half.
- _____ 4. A cell plate forms across the cell's middle.
- _____ 5. The cytoplasm of the cell divides in half.
- _____ 6. A cell wall forms on both sides of cell plate.

An analogy is a comparison. In the space provided, write the letter of the term or phrase that best completes the analogy.

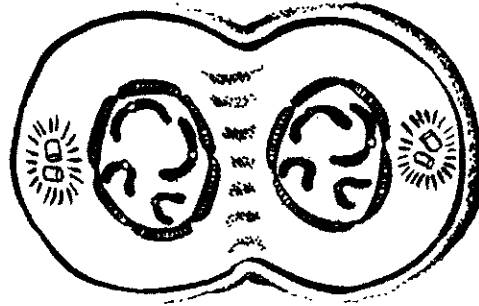
- _____ 7. Plant cell is to cell plate as animal cell is to
 - a. nucleus.
 - b. cytoplasm.
 - c. protein threads.
 - d. Both (a) and (b)

Science Skills *continued*

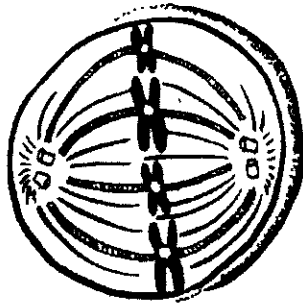
In the space provided below each animal cell, write the name of the stage of mitosis that is represented.



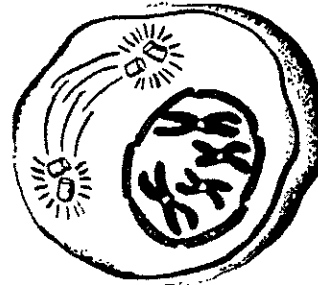
9. _____



10. _____



11. _____



12. _____

Determine the order in which the following four stages of mitosis take place. Write the number of each step in the space provided.

_____ 13. anaphase

_____ 14. metaphase

_____ 15. telophase

_____ 16. prophase