Name Date Class



**CHAPTER 9**

**Section 2: Mitosis and Cytokinesis**

***Study Guide***

**In your textbook, read about the stages of mitosis.**

*For each statement below, write* true *or* false.

 **1.** The nuclear membrane disintegrates during prophase.

 **2.** Microtubules move chromatids to the poles of the cell during anaphase.

 **3.** Chromosomes reach the poles of the cell during metaphase.

 **4.** The cell’s chromatin condenses into chromosomes during prophase.

 **5.** The nuclear envelope re-forms during anaphase.

 **6.** Chromosomes attach to spindle fibers and line up along the equator of
the cell during metaphase.

 **7.** The nucleus reappears during prophase.

 **8.** Centrioles migrate to the poles of the cell during telophase.

 **9.** Chromatids are pulled apart during anaphase.

 **10.** The first stage of mitosis is telophase.

 **11.** The chromosomes decondense or unwind during telophase.

 **12.** One of the shortest stages of mitosis is metaphase.

*Label the diagram of the stages of mitosis using lines 13–16. Use these choices:*

|  |  |  |  |
| --- | --- | --- | --- |
| **anaphase** | **metaphase** | **prophase** | **telophase** |

**13.**

**14.**

**15.**

**16.**



**17.**

**18.**

**19.**

**20.**

*Label the diagrams above using lines 17–20. Use these choices:*

|  |  |  |  |
| --- | --- | --- | --- |
| **centrioles** | **centromere** | **sister chromatids** | **spindle fibers** |

**126** Cellular Reproduction CHAPTER 9 Unit 2



***Study Guide,* Section 2: Mitosis and Cytokinesis** continued

**In your textbook, read about cytokinesis.**



|  |  |
| --- | --- |
| **Animal cell** | **Plant cells** |

*Refer to the diagrams above. Respond to each statement.*

**21. Discuss** the role of microfilaments in cytokinesis.

**22. Summarize** cell division in prokaryotes.

*Draw the formation of two genetically identical cells in plants in the space below. Include the
following labels:* cell plate, identical daughter cells, new cell wall.

**23.**

Unit 2 CHAPTER 9 Cellular Reproduction **127**