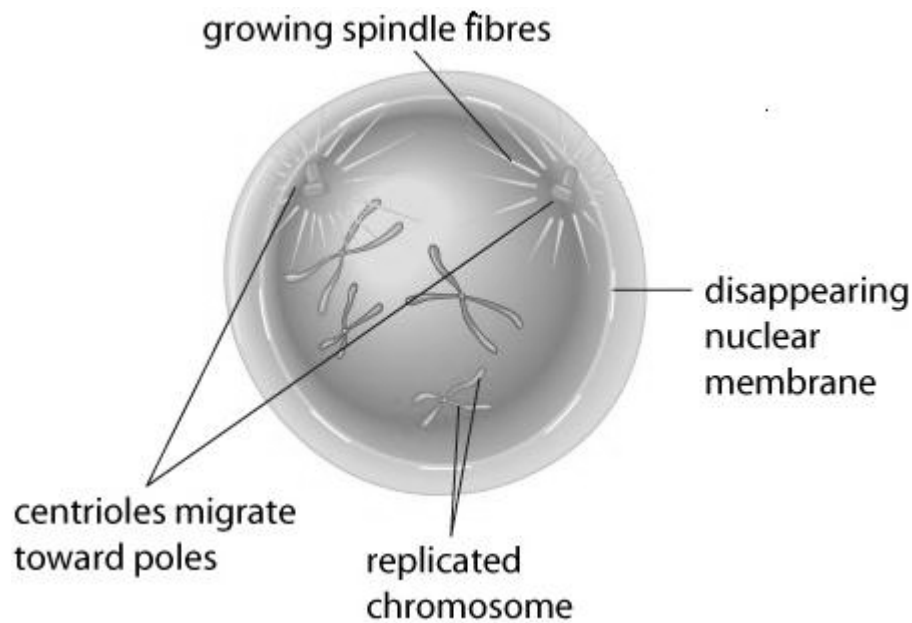


CHAPTER 16**ANSWER KEY****The Phases of Mitosis
Exercise Answer Key****BLM 16.2.2A**

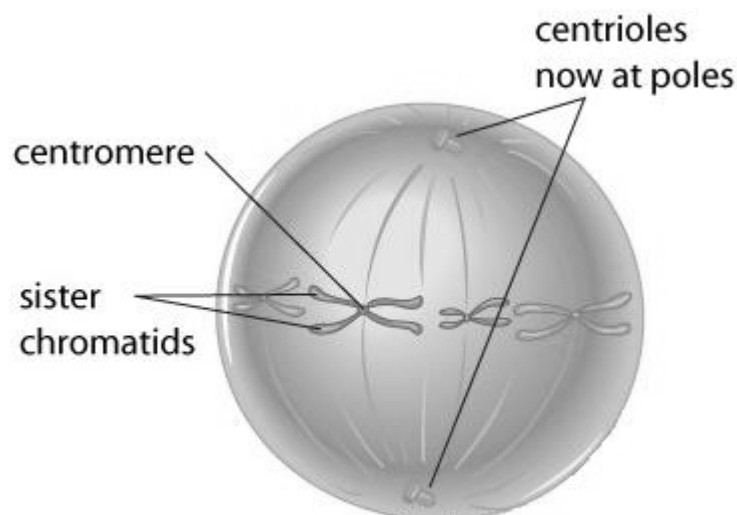
1.

Prophase

The chromatin coils to form visible chromosomes. Centrioles migrate towards the poles. The nuclear membrane disappears. A network of spindle fibres forms.

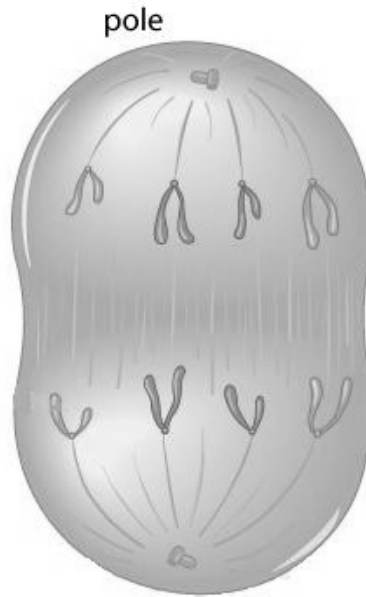
**Metaphase**

Spindle fibres guide chromosomes to the equator of the cell. One sister chromatid faces one pole and the other sister chromatid faces the opposite pole.

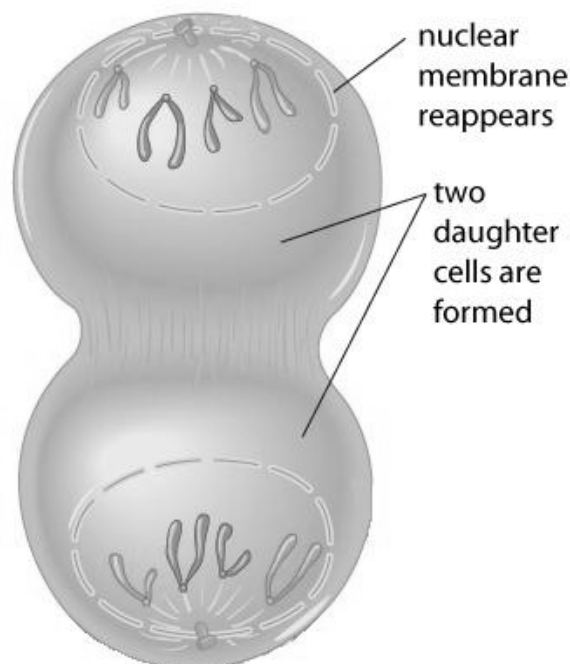


CHAPTER 16**ANSWER KEY****The Phases of Mitosis
Exercise Answer Key****BLM 16.2.2A****Anaphase**

The centromeres split apart and the sister chromatids are pulled apart to opposite poles of the cell as spindle fibres shorten. Microtubules of the spindle apparatus lengthen and force poles away from each other, lengthening the cell.

**Telophase**

The chromatids unwind into strands of chromatin. Spindle fibres break down. The nuclear membrane reforms around each new set of chromosomes. A nucleolus forms within each new nucleus. Two daughter cells are formed when the cell enters cytokinesis.



CHAPTER 16	The Phases of Mitosis Exercise Answer Key	BLM 16.2.2A
ANSWER KEY		

2. Mitosis is the process of nuclear division in cells. It is followed by cytokinesis, which is the division of the cellular cytoplasm to complete the formation of two new daughter cells.
3. Plant cells do not have centrioles, although they do have spindle fibres. This means that centrioles do not migrate towards the poles during prophase of mitosis in plant cells. Further, the rigid cell wall of a plant cell is much stronger than the cell membrane surrounding an animal cell. This means that the cell wall does not furrow or pinch in as it does in an animal cell during cytokinesis. Instead, a membrane called a cell plate forms between the two new daughter nuclei, extending across the diameter of the cell. Later, it becomes reinforced with proteins and cellulose to form a cell wall between the two cells.