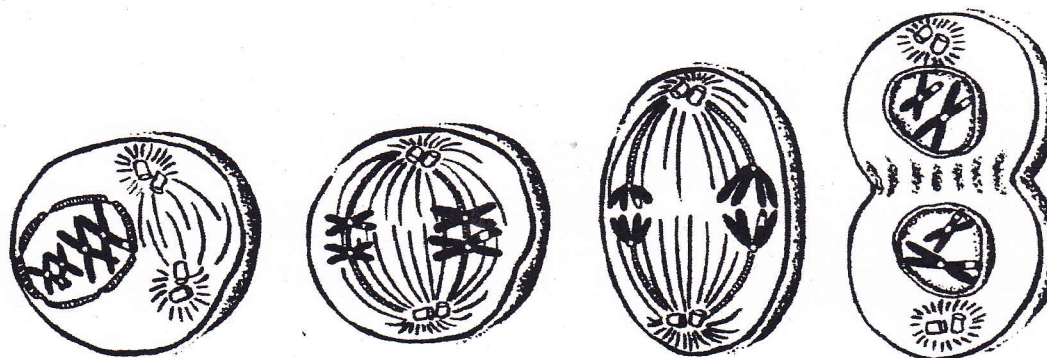


In the space provided in the figure below, write the letter of the stage of meiosis from the list below (a-h) that matches each stage in the figure.

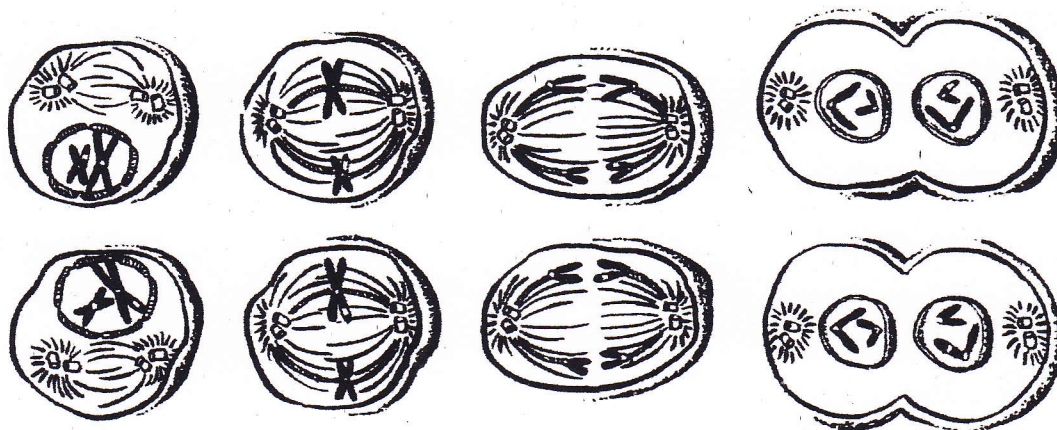


1. _____

2. _____

3. _____

4. _____



5. _____

6. _____

7. _____

8. _____

Stages of Meiosis

- | | |
|-----------------|---------------------------------|
| a. anaphase II | e. telophase II and cytokinesis |
| b. metaphase I | f. telophase I and cytokinesis |
| c. anaphase I | g. prophase I |
| d. metaphase II | h. prophase II |

In the space provided, write the letter of the description that best matches the stage of meiosis.

- | | |
|----------------------|--|
| ___ 9. metaphase I | a. A new spindle forms around the chromosomes |
| ___ 10. prophase II | b. Chromatids remain attached at their centromeres as the spindle fibers move the homologous chromosomes to opposite poles of the cell. |
| ___ 11. telophase I | |
| ___ 12. metaphase II | c. A nuclear envelope forms around each set of chromosomes, the spindle breaks down, and the cytoplasm divides, resulting in four haploid cells. |
| ___ 13. telophase II | |
| ___ 14. anaphase II | d. Chromosomes gather at the poles; the cytoplasm divides. |
| ___ 15. prophase I | e. The nuclear envelope breaks down; genetic material is exchanged through crossing-over. |
| ___ 16. anaphase I | f. Chromosomes line up at the equator. |
| | g. Pairs of homologous chromosomes line up at the equator. |
| | h. Centromeres divide, enabling the chromatids, now called chromosomes, to move to opposite poles of the cell. |

On the line to the left, write the letter of the correct solution for the problems below.

- ___ 1. The body cells of a cat has 38 chromosomes. A sperm from this cat will have
a. 19 chromosomes b. 38 chromosomes c. 76 chromosomes
- ___ 2. A human egg cell has 23 chromosomes. A fertilized human egg cell will have
a. 23 chromosomes b. 45 chromosomes c. 46 chromosomes
- ___ 3. The body cell of a chicken has 78 chromosomes. A body cell of its parent had
a. 39 chromosomes b. 78 chromosomes c. 156 chromosomes
- ___ 4. Humans have 46 chromosomes. Human sperm cells contain
a. 46 chromosomes b. 23 chromosomes c. no chromosomes
- ___ 5. The stem cells of rye grass contain 14 chromosomes. A sex cell of this plant will have ___ of chromosomes as the stalk cells.
a. the same number. b. half the number. c. twice the number.

On the line to the left, write **TRUE** if the statement is true or **FALSE** if the statement is false.

- _____ 1. Sex cells form during mitosis.
- _____ 2. Mitosis occurs in childhood only.
- _____ 3. Meiosis may form egg cells.
- _____ 4. Sex cells have twice as many chromosomes as other cells.
- _____ 5. A cell with six chromosomes undergoes mitosis. Each new cell will also have six chromosomes.
- _____ 6. Four new cells are formed from each original cell in meiosis.
- _____ 7. Growth in humans occurs mainly by mitosis.
- _____ 8. Sperm have twice as many chromosomes as eggs have.
- _____ 9. Only females form polar bodies.
- _____ 10. When a sperm and egg unite, one cell is formed.
- _____ 11. Mitosis is complete when two identical cells are formed.
- _____ 12. Compared with sperm cells, egg cells are larger.
- _____ 13. Egg cells are formed by fertilization.
- _____ 14. Skin and muscle cells are examples of body cells.
- _____ 15. A human male forms four sperm cells from each original cell.
- _____ 16. Body growth and repair usually takes place through meiosis.