Assessment: Cellular Division – Mitosis & Meiosis

Part I: Fill-in-the-Blank

Word Bank

chromosomes meiosis prophase mitosis diploid
haploid gametes interphase metaphase
anaphase telophase cytokinesis

1. The process of cell division that produces two identical daughter cells is called _____.
2. The process that produces sex cells with half the number of chromosomes is called _____.
3. Before a cell begins dividing, it spends most of its life in _____.
4. During _____, chromosomes line up across the middle of the cell.
5. During _____, sister chromatids are pulled apart and move to opposite sides of the cell.
6. The final stage of mitosis is called _____.
7. The division of the cytoplasm is known as _____.
8. Sex cells such as sperm and eggs are called _____.
9. Cells that contain two sets of chromosomes are _____.
10. Cells that contain one set of chromosomes are _____.

Part II: Multiple Choice

11. What is the primary purpose of mitosis?

A. Produce gametes
B. Create genetic variation
C. Growth and repair of tissues
D. Reduce chromosome number

12. How many daughter cells are produced by mitosis?

A. 1
B. 2
C. 3
D. 4

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13. How many daughter cells are produced by meiosis?

A. 2
B. 3
C. 4
D. 8

14. What type of cells are produced through meiosis?

A. Skin cells
B. Muscle cells
C. Nerve cells
D. Sex cells

15. During which phase do chromosomes become visible?

A. Prophase
B. Metaphase
C. Anaphase
D. Telophase

16. In which phase do chromosomes line up in the center of the cell?

A. Prophase
B. Metaphase
C. Anaphase
D. Telophase

17. Which process results in cells that are genetically identical to the parent cell?

A. Meiosis
B. Fertilization
C. Mitosis
D. Mutation

18. What is the chromosome number in human body cells?

A. 23
B. 46
C. 92
D. 12

19. What is the chromosome number in human gametes?

A. 46
B. 92
C. 23
D. 12

20. Which of the following occurs only in meiosis?

A. Chromosome replication
B. Cytokinesis
C. Production of haploid cells
D. Cell growth

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21. Which phase follows metaphase?

A. Prophase
B. Interphase
C. Telophase
D. Anaphase

22. Why is meiosis important?

A. It repairs damaged tissue.
B. It produces genetically identical cells.
C. It creates sex cells for reproduction.
D. It increases chromosome numbers.

23. Which phase occurs before mitosis begins?

A. Interphase
B. Metaphase
C. Telophase
D. Anaphase

24. What structure contains the genetic information of a cell?

A. Ribosome
B. Chromosome
C. Cell membrane
D. Cytoplasm

25. Which statement correctly compares mitosis and meiosis?

A. Both produce four daughter cells.
B. Mitosis produces gametes.
C. Meiosis reduces chromosome number by half.
D. Both produce genetically identical cells.

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