

AP Biology Semester Set 1

AP Biology - Cell cycle / division

Quiz Directions

1. During which stage does DNA replication occur?

1 pt(s).

- A. Prophase
- B. Metaphase
- C. Anaphase
- ⇒ D. none of these

2. At what phase in the cell cycle does DNA replication occur?

1 pt(s).

- A. G1
- ⇒ B. S
- C. G2
- D. M

3. Which of the following is NOT correct?

1 pt(s).

- A. Mitosis produces genetically identical cells.
- ⇒ B. Cytokinesis is a part of mitosis
- C. Metaphase occurs before anaphase.
- D. All somatic cells are produced by mitosis.

4. What is the function of centrioles?

1 pt(s).

- A. To cause cytokinesis via the concentric shortening of microtubules.
- B. They are required for DNA replication.
- C. They are the structure which hold the 2 daughter chromatids together at the centromere.
- ⇒ D. They produce microtubules for the chromosomes to migrate along as they move to opposite poles

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of the cell.

5. Which answer gives the stages of mitosis in proper chronological order?

1 pt(s).

- A. Anaphase, prophase, metaphase, telophase
 - B. Metaphase, anaphase, telophase, prophase
 - ⇒ C. Prophase, metaphase, anaphase, telophase.
 - D. Interphase, prophase, metaphase, anaphase, telophase.
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6. Which is the correct sequence of stages in the cell cycle?

1 pt(s).

- ⇒ A. G1, S, G2, M
 - B. G1, G2, S, M
 - C. S, G1, G2, M
 - D. G1, M, G2, S
-

7. In prophase, the nuclear membrane disappears.

1 pt(s).

- ⇒ A. True, it occurs early in prophase.
 - B. True, it occurs late in prophase.
 - C. False, it is not associated with prophase.
-

8. Which of the following is correct?

1 pt(s).

- A. The chromosomes shorten and thicken during prophase.
- B. The nucleolus reappears following telophase.
- C. Interphase is characterized by cellular activity, as the cell is preparing for the next mitotic event.
- ⇒ D. All of the above.

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9. The cytoplasm divides, and the cell contents are separated into two separate cells

1 pt(s).

- A. telophase
- B. S phase of interphase
- C. S phase of interphase
- ⇒ D. cytokinesis

10. Chromosomes become aligned along the equatorial plane of the cell

1 pt(s).

- A. prophase
- ⇒ B. metaphase
- C. anaphase
- D. telophase

11. Migration of the daughter chromosomes to the two poles is complete.

1 pt(s).

- A. prophase
- B. metaphase
- C. anaphase
- ⇒ D. telophase

12. In mitosis the number of chromosome sets in daughter cells

1 pt(s).

- A. half the number in the parent cell
- B. twice the number
- C. one fourth the number
- ⇒ D. same as in parent cell

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13. Homologous chromosomes are separated during

1 pt(s).

- A. anaphase of mitosis
- B. metaphase of meiosis
- ⇒ C. anaphase I of meiosis
- D. anaphase I of meiosis and anaphase of mitosis

14. Longest phase in cell cycle

1 pt(s).

- A. M phase
- ⇒ B. Interphase

15. Which is the longest phase in Meiosis I

1 pt(s).

- ⇒ A. Prophase I
- B. Metaphase I
- C. Anaphase I
- D. Telophase I

16. During anaphase:

1 pt(s).

- ⇒ A. chromosomes separate
 - B. the mitotic spindle checkpoint is created
 - C. chromosomes are aligned at the metaphase plate
 - D. microtubules begin to invade the nuclear space
-

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17. The first phase of mitosis is called:

1 pt(s).

- ⇒ A. prophase
 B. metaphase
 C. anaphase
 D. telophase
-

18. During metaphase the centromeres of the chromosomes gather along the equatorial plane.

1 pt(s).

- ⇒ True
 False
-

19. Cell division is completed when which step is finished:

1 pt(s).

- A. telophase
⇒ B. cytokinesis
 C. G1
 D. mitosis
-

20. After telophase is completed, the process of mitosis is completed.

1 pt(s).

- ⇒ True
 False
-

21. A chromatid is one of two identical copies of DNA making up a chromosome.

1 pt(s).

- ⇒ True
 False

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22. Mitosis is the process by which chromosomes are duplicated within cells.

1 pt(s).

- True
⇒ False

23. During which phase of mitosis do the chromosomes line up along the middle of the dividing cell?

1 pt(s).

- A. prophase
⇒ B. metaphase
 C. anaphase
 D. telophase

24. A protein called p53 can keep cells from dividing. To prevent cell division, this protein most likely stops

1 pt(s).

- A. Osmosis
⇒ B. Mitosis
 C. Respiration
 D. Mutation

25. The spindle fibers are produced by the

1 pt(s).

- ⇒ A. Centrioles
 B. Nucleus
 C. Chromosomes
 D. Chromatin
-

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26. A nuclear envelope forms around each set of chromosomes and cytokinesis occurs, producing four daughter cells, each with a haploid set of chromosomes.
1 pt(s).

- A. cytokinesis
- B. anaphase I
- C. anaphase II
- D. telophase I
- ⇒ E. telophase II

27. Homologous chromosomes move towards opposite poles of a dividing cell during...
1 pt(s).

- A. metaphase I
- ⇒ B. anaphase I
- C. anaphase II
- D. metaphase II

28. The function of mitosis is
1 pt(s).

- A. growth and repair
- ⇒ B. nuclear division
- C. reproduction

29. What is the function of meiosis?
1 pt(s).

- A. growth and repair
- ⇒ B. nuclear division
- C. reproduction

30. What is the purpose of mitosis?
1 pt(s).

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- ⇒ A. growth and repair
 B. nuclear division
 C. reproduction
-

31. What is the purpose of meiosis?
1 pt(s).

- A. growth and repair
 B. nuclear division
⇒ C. reproduction
-

32. Meiosis II is similar to mitosis in that...
1 pt(s).

- A. homologous chromosomes synapse
 B. DNA replicates before the division
 C. the daughter cells are diploid
⇒ D. sister chromatids separate during anaphase
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33. Metaphase of meiosis I and meiosis II differ in that...
1 pt(s).

- A. chromosomes line up at the equator
⇒ B. homologues line up in meiosis I & duplicated chromosomes line up in meiosis II
 C. there are the same number of chromosomes
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34. When skin cells are attached to each other ... which of the following is considered to be the weakest?
1 pt(s).

- ⇒ A. tight junction
 B. gap junction
 C. desmosomes

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35. When cells are attached to each other ... which type of junction would permit inter cellular communication
1 pt(s).

- A. tight junction
- ⇒ B. gap junction
- C. desmosomes

36. When cells are attached to each other ... which type of junction would be considered to be the strongest?
1 pt(s).

- A. tight junction
- B. gap junction
- ⇒ C. desmosomes

37. In which of the following pairs of tissues does meiosis occur?
1 pt(s).

- A. root tips and liver cells
- ⇒ B. ovaries and testes
- C. meristems and testes

38. What word is used to describe the chromosome content of the new cells formed by meiosis?
1 pt(s).

- ⇒ A. Haploid
- B. Polyploid
- C. Diploid

39. What is formed as a result of meiosis?
1 pt(s).

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- A. Two new haploid cells
- ⇒ B. Four new haploid cells
- C. Four new diploid cells