

Cell Cycle Practice Test

Name: _____

Date: _____

1. The diagram shown represents a cell that will undergo mitosis. Which diagrams below best illustrate the nuclei of the daughter cells that result from a normal mitotic cell division of the parent cell shown?



- A. + B. +
- C. + D. +

2. The diagram shown represents a microscopic structure observed during the process of cell division. Letter *A* indicates a

- A. nucleolus B. ribosome
C. centriole D. centromere



3. The diagram shown represents a microscopic structure observed during the process of cell division. Letter *B* indicates a

- A. centrosome B. spindle fiber
C. chromatid D. cell plate

4. Which is a characteristic of the group of diseases known as cancer?

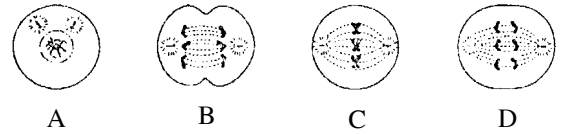
- A. uncontrolled cell division
B. the formation of only monoploid cells
C. meiotic cell division in body cells
D. the rapid formation of zygotes

5. How many chromosomes will be found in each of the two new cells formed as a result of mitotic cell division?

- A. only one-half as many chromosomes as the parent cell
B. twice as many chromosomes as the parent cell
C. three times as many chromosomes as the parent cell
D. the same number of chromosomes as the parent cell

6. Which is the correct sequence for the stages of mitotic cell division represented by the diagrams shown?

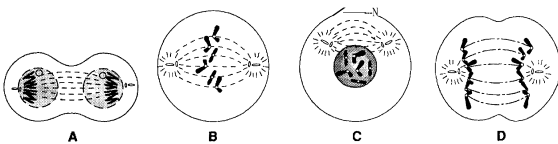
- A. A → B → C → D B. A → C → D → B
 C. B → A → D → C D. B → C → D → A



7. An organism's capacity for regeneration is most dependent on the
- A. amount of surface area in its circulatory system
 - B. relative complexity of its endocrine glands
 - C. relative number of undifferentiated cells in its body
 - D. amount of oxygen supplied by its respiratory system

9. What would most likely result if mitosis was *not* accompanied by cytoplasmic division?
- A. two cells, each with one nucleus
 - B. two cells, each without a nucleus
 - C. one cell with two identical nuclei
 - D. one cell without a nucleus

8. The diagrams shown represent stages of a cellular process. Which is the correct sequence of these stages?



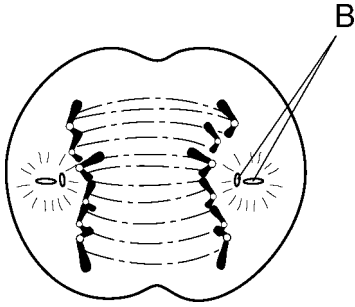
- A. A → B → C → D B. B → D → C → A
 C. C → B → D → A D. D → B → A → C

10. Which mitotic event in the chart occurs after the other three events have taken place?

A	Appearance of spindle fibers
B	Separation of chromatids by the action of spindle fibers
C	Disintegration of the nuclear membrane
D	Replication of chromosomes

- A. A B. B C. C D. D

11. The cell in the diagram below illustrates a stage of mitotic cell division.



Letter *B* indicates the

- A. paired chromosomes
 - B. centrioles
 - C. cell plate
 - D. endoplasmic reticulum
12. Which cell activity must occur in order for the normal sequence of events in mitosis and meiosis to take place?
- A. translocation
 - B. nondisjunction
 - C. DNA replication
 - D. RNA replication

13. Which process most likely accounts for the sudden appearance of a white-flowered plant in a population of pure self-pollinating red-flowered plants?

- A. mutation
 - B. nondisjunction
 - C. segregation
 - D. independent assortment
14. Gene mutations occur in plant and animal cell nuclei when
- A. the hydrogen bases separate during replication
 - B. the base sequence in DNA is changed
 - C. ribose is substituted for deoxyribose in RNA
 - D. cytosine in DNA is replaced by phosphorus in RNA
15. The process of mitosis usually involves
- A. chromosome duplication and synapsis
 - B. DNA replication and separation of chromatids
 - C. tetrad formation and fertilization
 - D. reduction in chromosome number and formation of cell plate

16. The phrases below describe several events that occur during the process of mitosis.
- A) attachment of double-stranded chromosomes to the spindle apparatus
 - B) formation of single-stranded chromosomes, which are moved to opposite ends of the cell
 - C) disintegration of the nuclear membrane
 - D) nuclear membrane formation around each set of chromosomes, forming two nuclei
 - E) synthesis of a spindle apparatus

Which sequence represents the correct order of these events?

- A. A → B → C → D → E
- B. B → D → A → C → E
- C. A → D → E → B → C
- D. C → E → A → B → D

17. New cells are produced within bone marrow as a direct result of
- A. gamete formation
 - B. meiotic cell division
 - C. polar body formation
 - D. mitotic cell division

18. Which is a true statement about normal mitotic cell division?
- A. Each daughter cell produced has only one-fourth the number of chromosomes of the parent cell.
 - B. Each daughter cell produced has only one-half the number of chromosomes of the parent cell.
 - C. Each daughter cell produced has the same number of chromosomes as the parent cell.
 - D. Each daughter cell produced has twice the number of chromosomes of the parent cell.

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1.
Answer: A
2.
Answer: D
3.
Answer: C
4.
Answer: A
5.
Answer: D
6.
Answer: B
7.
Answer: C
8.
Answer: C
9.
Answer: C
10.
Answer: B
11.
Answer: B
12.
Answer: C
13.
Answer: A
14.
Answer: B
15.
Answer: B
16.
Answer: D
17.
Answer: D
18.
Answer: C