

CELL BIOLOGY

Name: _____

Date: _____

Chapter 10 Test: Cell Growth



Label the diagram below

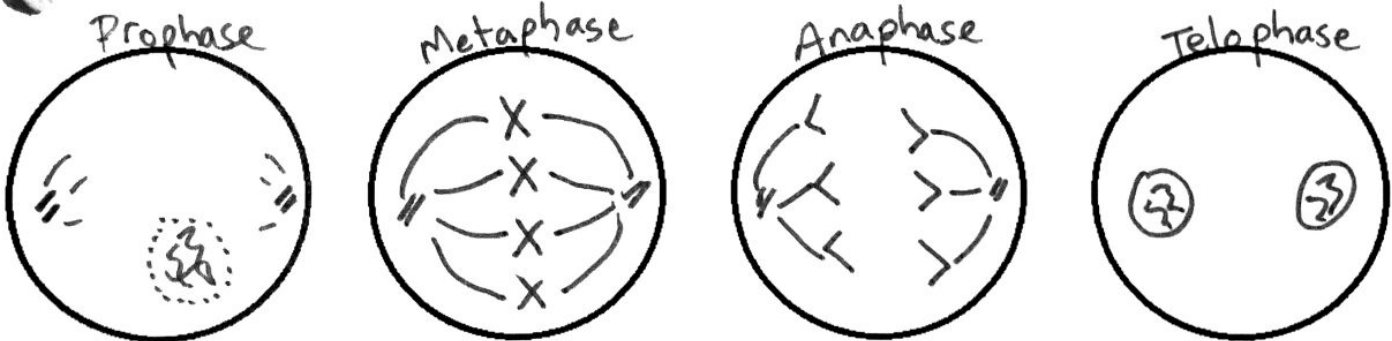
1. G₁ Phase
2. S Phase
3. G₂ Phase
4. M Phase
5. Interphase
6. cell division
7. mitosis
8. cytokinesis
9. prophase
10. metaphase
11. anaphase
12. telophase

~~2010~~
~~A: 27~~
~~M: 27~~
~~H: 22~~

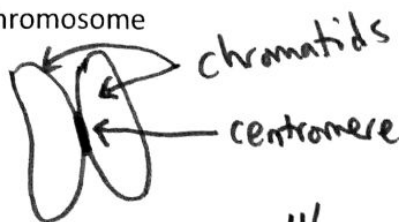
2014
 A: 37/40 A: 36/40
 H: 41 H: 41



(4pt) DRAW and LABEL the stages of mitosis below:



13. (1pt) Draw and label (2 parts) a chromosome



14. How many chromosomes do human cells contain? 46

15. What is the function of the spindles? separates chromosomes
making sure = # of them in each cell

16. During which phase of the cell cycle does DNA replication occur?

S-phase

17. During which phase of the cell cycle does cell division occur?

M-phase

18. During which phase of mitosis do the chromosomes line up?

metaphase

19. During which phase of mitosis do the chromatids separate (and become individual chromosomes)?

anaphase

20. What do the centrioles do during cell division?

coordinate spindle

21. What two processes make up the M phase of the cell cycle?

2pt mitosis and cytokinesis

22. During what phase of mitosis do the chromosomes turn back into "spaghetti"?

telophase

23. What is the difference between a malignant and benign tumor?

DE cancerous → harmless

24. Name 2 types of carcinogens.

2pt chemicals, radiation, tobacco, viruses

25. What is the name of a protein that regulates the cell cycle?

cyclin

26. When healthy cells come in contact with other cells, what happens?

stop cell division

27. What is the cause of cancer?

DNA is damaged and cell growth is uncontrolled

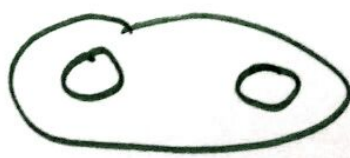
EC. What does ATP stand for?

Adenosine triphosphate

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- C 13. During what phase of mitosis do the spindles attach to the chromosomes?
 - a. telophase
 - b. prophase
 - c. metaphase
 - d. anaphase
- D 14. What must be done with DNA before a cell divides?
 - a. DNA must be broken into elements
 - b. DNA must be simplified
 - c. DNA must be reordered
 - d. DNA must be replicated
- D 15. The DNA in a cell can be compared to
 - a. a door
 - b. a street
 - c. a football
 - d. a library
- D 16. What is the surface area to volume ratio of a cubic cell with 4cmX4cmX4cm sides?
 - a. 2:1
 - b. 3:1
 - c. 6:1
 - d. 1.5:1
- D 17. What two identical components make up the chromosome before anaphase occurs?
 - a. centrioles
 - b. centromeres
 - c. spindles
 - d. chromatids
- C 18. What must be altered in a cell for cancer to occur?
 - a. mitochondria
 - b. centrioles
 - c. DNA
 - d. cyclins
- C 19. During what phase of mitosis does the nucleus reform and the chromosomes disperse?
 - a. metaphase
 - b. anaphase
 - c. telophase
 - d. prophase
- C 20. What is the middle area of the chromosomes to which the spindles attach?
 - a. interphase
 - b. centriole
 - c. centromere
 - d. chromatid
- A 21. Cytokinesis occurs at the same time as what phase of mitosis?
 - a. telophase
 - b. metaphase
 - c. prophase
 - d. anaphase
- D 22. What does the M in M-phase stand for?
 - a. ~~mylein~~
 - b. midi-chlorians
 - c. mitochondria
 - d. mitosis
- A 23. Which of the following does NOT cause cancer
 - a. bacteria
 - b. chemicals
 - c. radiation
 - d. viruses
- D 24. During what phase of mitosis does the nucleolus disappear and the nuclear envelope breaks down?
 - a. metaphase
 - b. anaphase
 - c. ~~telophase~~
 - d. prophase
- C 25. What phase does the cytoplasm divide and finally form 2 sepaparte cells?
 - a. S phase
 - b. anaphase
 - c. cytokinesis
 - d. prophase
- B 26. During what phase of mitosis do the sister chromatids separate and are pulled to their respective poles?
 - a. prophase
 - b. anaphase
 - c. metaphase
 - d. telophase



Name: _____

ID: A

- C 27. What are the proteins that regulate the cell cycle timing?
a. nuclei
b. chromosomes
c. cyclins
d. spindles
- B 28. What is the name of the process that involves the splitting of the nucleus of the cell?
a. centrolysis
b. mitosis
c. cytokinesis
d. S phase
- B 29. What does G stand for in G1 and G2 phases?
a. Genesis
b. Gap
c. Gnostic
d. Generation
- D 30. What coordinates the spindle during mitosis?
a. carcinogens
b. centromeres
c. chromosomes
d. centrioles
- A 31. What happens during G1 phase?
a. cell growth
b. DNA replication
c. prepare for mitosis
d. cytokinesis
- D 32. How many chromosomes do humans have?
a. 48
b. 23
c. 8
d. 46
- C 33. What happens during G2 phase?
a. cell growth
b. mitosis
c. prepare for mitosis
d. DNA synthesis
- A 34. During what phase of mitosis do the chromatin become visible as chromosomes?
a. prophase
b. telophase
c. anaphase
d. metaphase
- B 35. What is the name for the long period of growth that occurs between cell splitting?
a. cytokinesis
b. interphase
c. M phase
d. mitosis
- B 36. What type of tumors are harmless?
a. metastasis
b. benign
c. malignant
d. carcinogenic
- B 37. What happens during S phase?
a. Nucleolus synthesis
b. DNA replication
c. Straightening of chromosomes
d. cell grows
- A 38. Which of the following causes cells to stop dividing?
a. contact with other cells
b. a cut in your skin
c. limited surface area of cell membrane
d. DNA overload
- D 39. During what phase of mitosis do the chromosomes line up across the middle of the cell?
a. anaphase
b. telophase
c. prophase
d. metaphase
- B 40. What is the structure made of DNA that organizes genetic material in mitosis?
a. centromere
b. chromosome
c. spindle
d. centriole