Biology Test: Ch. 9
Mr. Rellinger, 2014

Multiple Choice

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

_____ 1. Which event occurs during interphase?
a. The cell carries out metabolic growth processes.
b. Centrioles appear.
c. Spindle fibers begin to form.
d. Centromeres divide.

_____ 2. During which phase of mitosis do the chromosomes line up along the middle of the dividing cell?
a. prophase
b. telophase
c. metaphase
d. anaphase

_____ 3. The process of the cell cycle in which a cell divides into two daughter cells is called
a. cytokinesis.
b. metaphase.
c. interphase.
d. mitosis.

_____ 4. The cell cycle is the
a. series of events that cells go through from "birth" to reproduction.
b. period of time between the birth and the death of a cell.
c. time from prophase until cytokinesis.
d. time it takes for one cell to undergo mitosis.

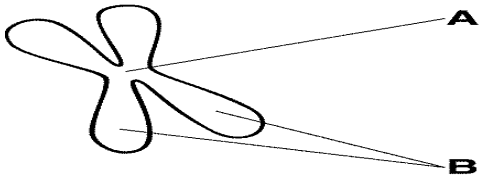


Figure 9-1

_____ 5. The region labeled B in Figure 9-1 is called the
a. centromere.
b. centriole.
c. sister chromatids.
d. spindle microtubules.

_____ 6. During which phase(s) of mitosis are structures like the one shown in Figure 9-1 visible?
   a. anaphase and prophase
   b. prophase and metaphase
   c. metaphase only
   d. anaphase and interphase

_____ 7. Which of the following is a correct statement about the events of the cell cycle?
   a. Little happens during the G_1 and G_2 phases.
   b. DNA replicates during cytokinesis.
   c. The Mitotic phase is usually the longest phase.
   d. Interphase consists of the G_1, S, and, G_2 phases.

_____ 8. Unlike mitosis, meiosis results in the formation of
   a. diploid cells.
   b. haploid cells.
   c. 2*n* daughter cells.
   d. body cells.

_____ 9. Crossing-over rarely occurs in mitosis, unlike meiosis. Which of the following is the likely reason?
   a. Chromatids are not involved in mitosis.
   b. Tetrads rarely form during mitosis.
   c. A cell undergoing meiosis does not have homologous chromosomes.
   d. There is no prophase during mitosis.

_____10. Which of the following is NOT a correct statement about the events of the cell cycle?
   a. Interphase is usually the longest phase.
   b. DNA replicates during the S phase.
   c. Cell division ends with cytokinesis.
   d. The cell grows during the Mitotic phase.

_____11. Which of the following is a phase in the cell cycle?
   a. G_1 phase
   b. G_2 phase
   c. Mitotic phase
   d. all of the above

_____12. The mitosis is …
   a. series of events that cells go through from "birth" to reproduction.
   b. period of time between the birth and the death of a cell.
   c. time from prophase until the S-phase of the cell.
   d. time from prophase to telophase of the nucleus.

_____13. The two main processes of the divisional mitotic phase are called
a. mitosis and interphase.
b. telophase and cytokinesis.
c. the M phase and the S phase.
d. mitosis and cytokinesis.

_____14. Which of the following is a phase of mitosis?
a. cytokinesis
b. interphase
c. prophase
d. S phase

_____15. Unlike mitosis, the end of meiosis usually results in the formation of
a. two genetically identical cells.
b. four genetically unique cells.
c. four genetically identical cells.
d. two genetically unique cells.

_____16. What is shown in Figure 9-2?
a. independent assortment
b. anaphase I of meiosis
c. crossing over
d. replication

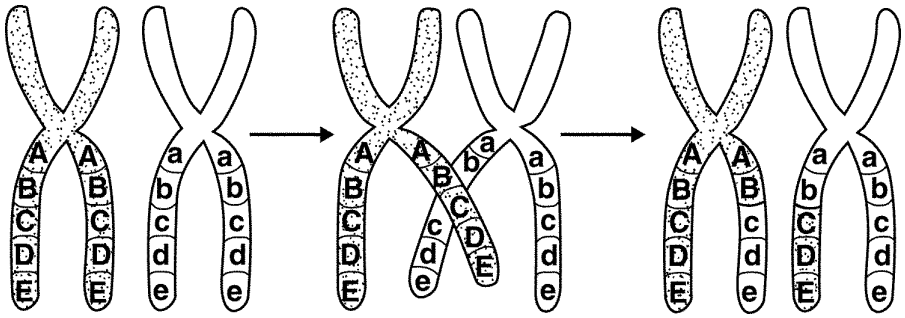


Figure 9-2

USING SCIENCE SKILLS

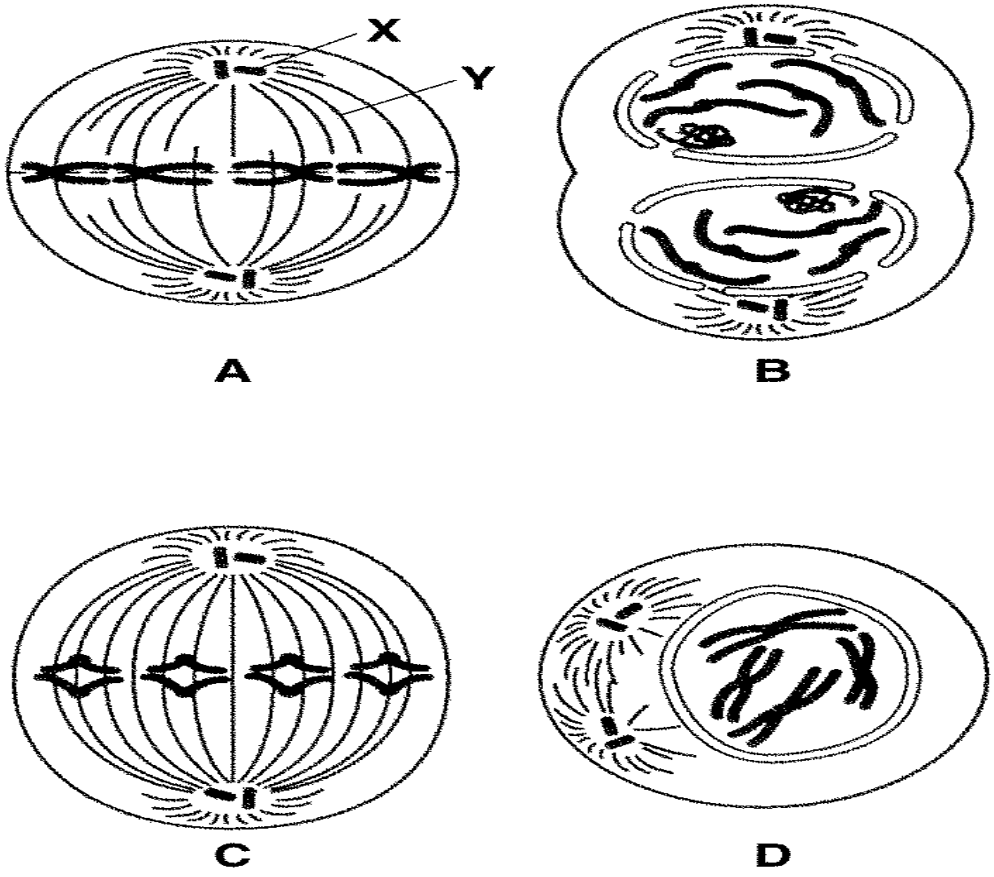


Figure 9-4

17. **Observing:** List the correct order for the diagrams of the mitosis process in Figure 9-4.
    a. A, B, C, D b. D, C, B, A c. D, A, C, B d. D, B, A, C

18. **Inferring:** What would be the (diploid) chromosome number of the cell shown in Figure 9-4?
    a. 4 b. 8 c. 2 d. 16

19. **Inferring:** Identify the structure labeled Y in Figure 9-4.
    a. nucleus b. centrosome c. spindle microtubule d. sister chromatids

20. **Observing:** What phase is shown in diagram C of Figure 9-4?
    a. prophase b. metaphase c. anaphase d. telophase

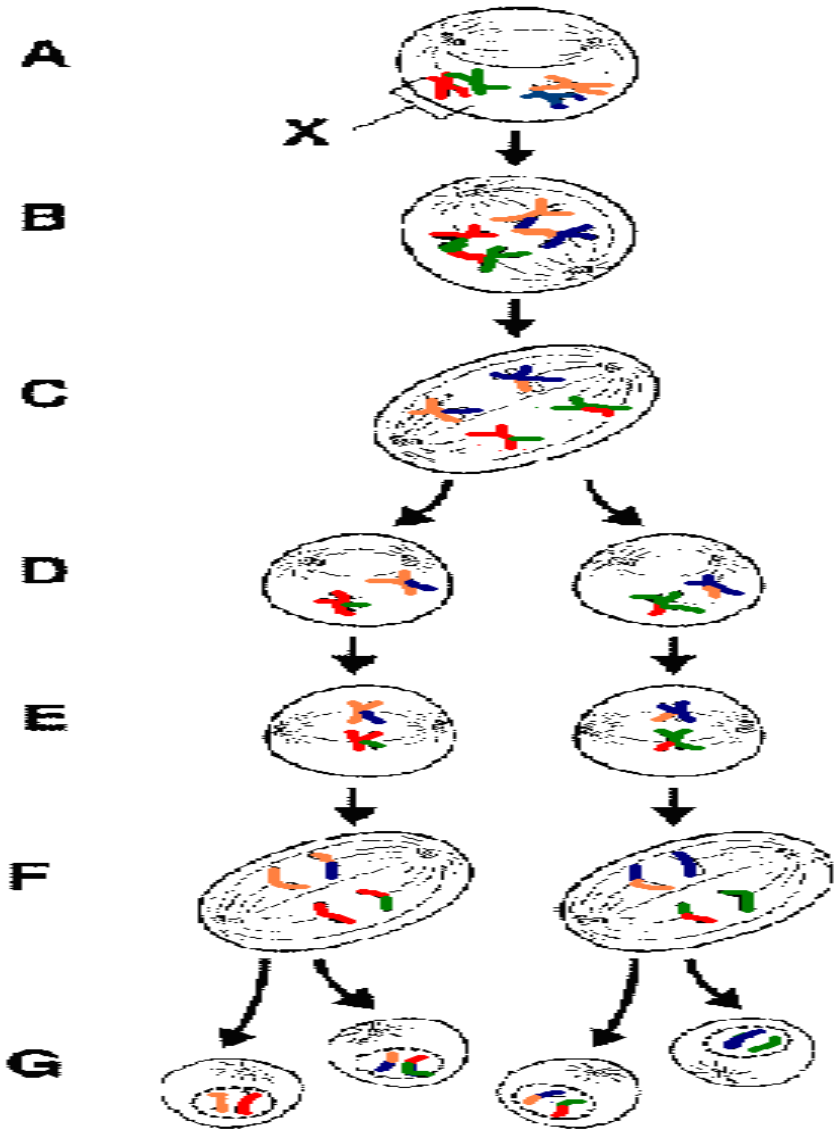


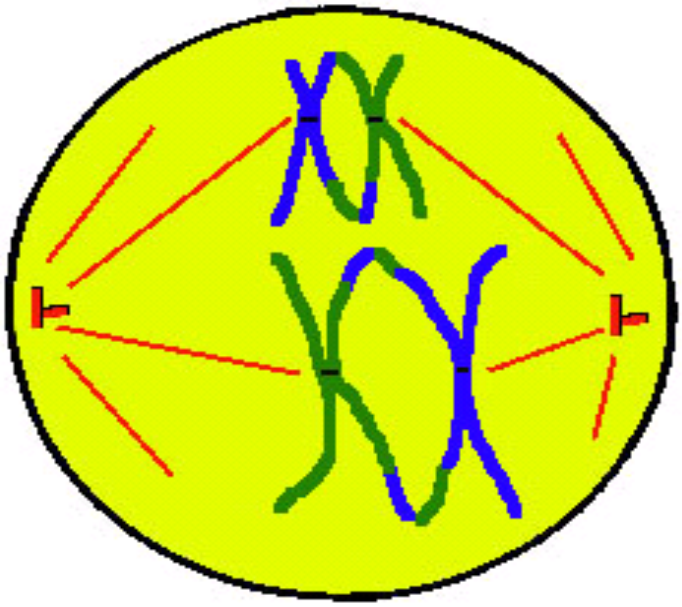
Figure 9-6

21. **Interpreting Graphics:** In Figure 9-6, what is the entire structure labeled X in phase A?
    a. Chromatin b. Tetrad c. A chromosome d. Sister chromatids

22. **Observing:** In Figure 9-6, during which phase would crossing-over and genetic recombination occur?
    a. D b. A c. G d. E

23. **Identifying:** In Figure 9-6, identify the phase of meiosis for letter F.
    a. Anaphase I b. Telophase/Cytokinesis II c. Metaphase I d. Anaphase II

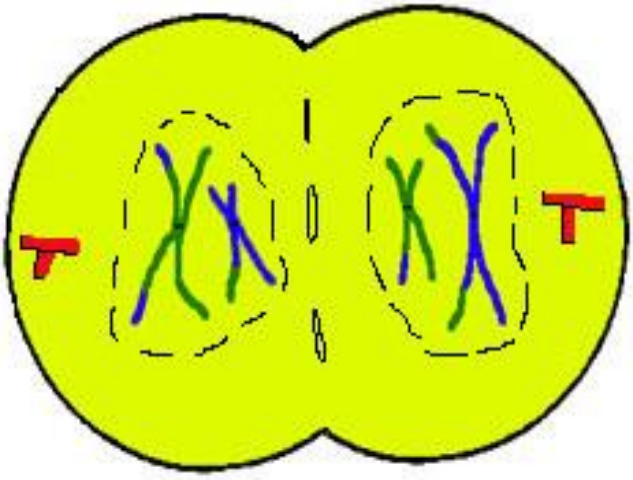
Interpreting Graphics: Use the meiosis diagrams below to identify the most appropriate answers.



24. Identify the process:
a. Prophase I
b. Prophase II
c. Metaphase I
d. Metaphase II

25. Identify the genetic material:
a. Chromatin
b. Sister-chromatids
c. A chromosome
d. Tetrads of homologous chromosomes

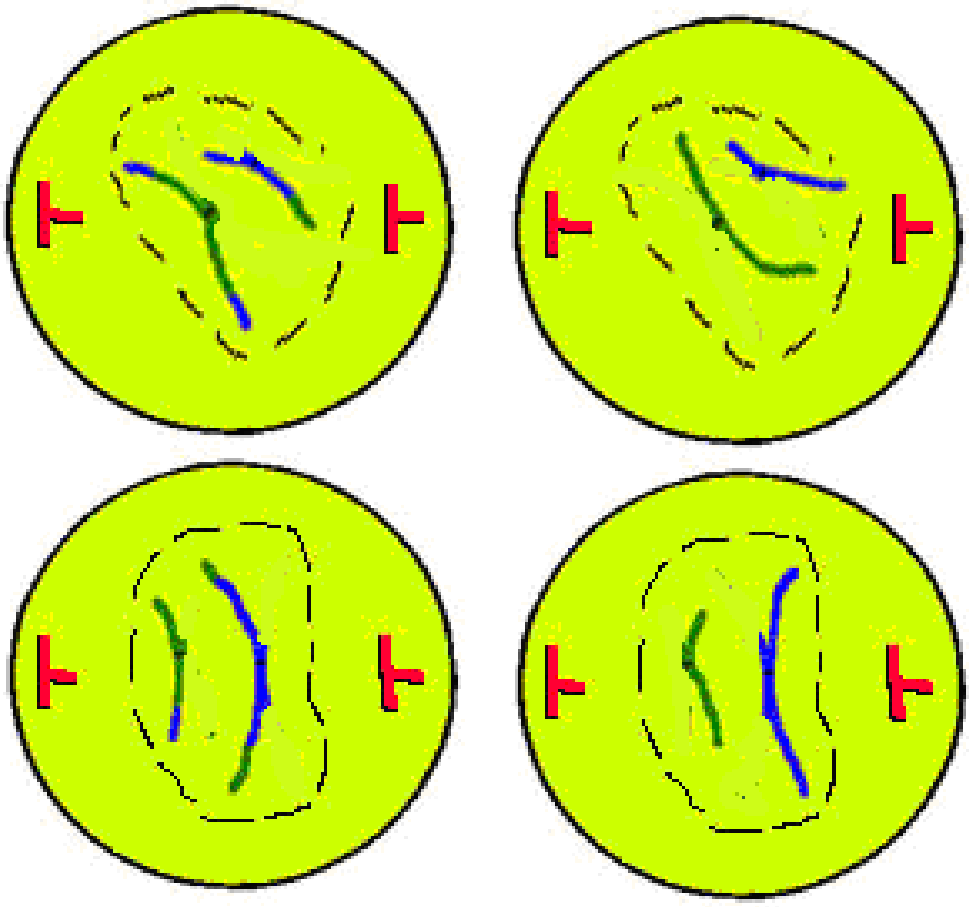
26. Identify the amount of genetic material: Extra Credit
a. n b. 2n
c. 2 x 2n d. 4 x 2n



27. Identify the process:
a. Prophase II
b. Anaphase I
c. Telophase/Cytokinesis I
d. Telophase/Cytokinesis II

28. Identify the genetic material:
a. Chromatin
b. Sister-chromatids
c. Homologous chromosomes
d. Tetrads of homologous chromosomes

29. Identify the amount of genetic material in each developing new cell: Extra Credit
a. n b. 2n
c. 2 x 2n d. 4 x 2n



30. Identify the process:
a. Telophase/Cytokinesis I
b. Anaphase II
c. Telophase/Cytokinesis II
d. Metaphase I

31. Identify the genetic material:
a. Chroma
b. Sister-chromatids
c. Chromosomes
d. Tetrads of homologous chromosomes

32. Identify the amount of genetic material: Extra Credit
a. n b. 2n
c. 2 x 2n d. 4 x 2n