

Cell Reproduction

Goal • Assess your knowledge of mitosis and meiosis.

What to Do

Read the instructions and answer the following questions.

True/False

In the spaces provided, write T if the statement is true or F if the statement is false. Correct any false statements by writing a corrected statement below it.

___ 1. Sex cells have twice as many chromosomes as other cells.

___ 2. Zygotes are produced by the union of sperm and egg cells.

___ 3. Meiosis may form egg cells.

___ 4. Sex cells are formed during mitosis.

___ 5. Only a diploid zygote can function as the offspring's first body cell.

___ 6. Four new cells are formed from each original cell in meiosis.

___ 7. There are two cell divisions during mitosis.

___ 8. During sperm formation, only one cell receives sufficient cytoplasm to mature.

___ 9. Haploid refers to the gametes of a cell with only one set of chromosomes.

___ 10. A cell with six chromosomes undergoes mitosis; each new cell will also have six chromosomes.

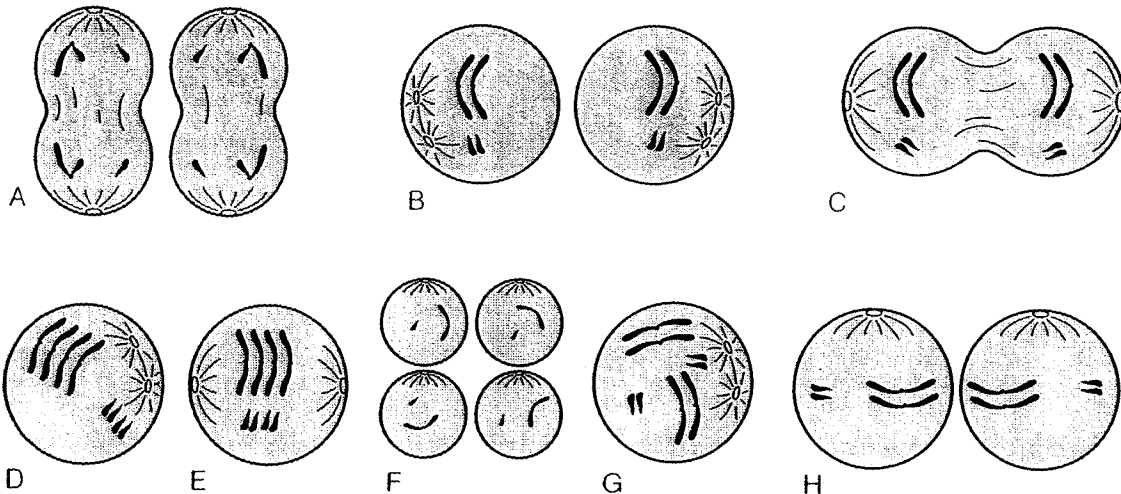
Fill in the Blanks

Complete the following sentences.

11. Cell division resulting in two new nuclei having the same number of chromosomes as the original nucleus is called _____.
12. During the process of _____ a zygote is produced.
13. _____ are the male gonads.
14. The parts of the nucleus that control inherited traits are the _____.
15. In _____ reproduction, the offspring is genetically identical to its parent.
16. Human _____ have 23 chromosomes and are called haploid.
17. Human body cells are referred to as _____.
18. _____ are matching pairs of chromosomes.
19. The main difference between mitosis and meiosis is that chromosomes do not _____ between the two divisions in meiosis.
20. Skin cells reproduce by _____.

Matching

The diagrams below show the changes that take place during meiosis. Arrange the steps in order by numbering them from 1 through 8. Write the numbers on the lines to the left.



- | | | | |
|-------------|-------------|-------------|-------------|
| 21. _____ A | 23. _____ C | 25. _____ E | 27. _____ G |
| 22. _____ B | 24. _____ D | 26. _____ F | 28. _____ H |

Short Answer

29. (a) What is "crossing over"?

(b) What does this process produce?
