

Meiosis

Section Review

Reviewing Terms

On the line provided, write the letter of the term from the list that matches each description. Each choice can be used once, more than once, or not at all.

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|---|------------------|
| _____ 1. human cells contain 46 of these | a. mitosis |
| _____ 2. cells that contain a single set of chromosomes | b. chromosomes |
| _____ 3. process in which eukaryotic cells produce daughter cells | c. gametes |
| _____ 4. cells that contain a double set of chromosomes | d. haploid |
| _____ 5. sex cells | e. diploid |
| _____ 6. special process of cell division in which haploid gametes are produced | f. meiosis |
| _____ 7. process during which chromosomes appear | g. linked genes |
| _____ 8. exchange of genetic material between homologous chromosomes | h. crossing-over |
| _____ 9. process that was once called reduction division | |
| _____ 10. process that produces more possible combinations of genetic material than would exist otherwise | |
| _____ 11. genes on the same chromosome that are often inherited together | |

Reviewing Concepts

Complete each statement by underlining the correct word or phrase in the parentheses.

12. An egg cell and pollen are both examples of (chromosomes, gametes).
13. An organism passes (one copy, two copies) of each gene on to its offspring.
14. There are (23, 46) chromosomes in a human haploid cell.
15. The number of chromosomes in a (haploid, diploid) cell is represented by the term $2n$.
16. A diploid organism produces haploid gametes by (mitosis, meiosis).
17. Human chromosomes can combine in over (6 thousand, 8 million) possible ways.
18. (Crossing-over, Inheritance) is the outright switching of alleles from one chromosome to the other.

Mitosis and Meiosis Review

Characteristic	Mitosis (Body Cells) (Autosomes)	Meiosis (Gametes) (Sex cells)
Number of Daughter Cells	2	4
Number of Cell Divisions	1	2
Daughter Cells are Diploid or Haploid ?	diploid (full chromosome number)	Haploid ($\frac{1}{2}$ the chromosome number)
Daughter Cells and Parent Cells are Identical or Different ?	identical	Different
Parent Cell is Diploid or Haploid ?	Diploid	diploid

Word Bank (words can be used more than once):

Interphase Prophase Metaphase Anaphase Telophase Cytokinesis
Mitosis Meiosis Cancer Centromere

- The process used to make sperm and egg is _____.
- The phase in which chromosomes line up in the center of the cell is _____.
- _____ is a type of cell division that requires two cell divisions.
- The spindle fibers form during this phase _____.
- A group of diseases characterized by uncontrollable cell division _____.
- The phase in which the cell is not dividing but the chromosomes double _____.
- The last phase of mitosis is called _____.
- The structure that holds two chromatids together is the _____.
- This process results in 2 identical daughter cells _____.
- The daughter cells of this process are haploid, which means they have $\frac{1}{2}$ the original number of chromosomes _____.
- This structure holds two chromatids together and attached to the spindle fiber _____.
- After the phases of mitosis are completed, this occurs _____.