

Meiosis Quiz Review with Answers!

1. Define the term diploid: *Having the total number of chromosomes that an organism needs to survive. Represented by $2n$.*
2. Define the term haploid: *Having half the total number of chromosomes an organism needs to survive. Represented by n . The haploid number is always half of the diploid number for any organism.*
3. If an organism has a diploid number of 16 chromosomes, what is its haploid number? *8*
4. What does crossing over refer to? *Homologous chromosomes exchange corresponding segments of DNA.*
5. Fertilization is involved in what type of reproduction? *Sexual*
6. What are human sex cells called? *Gametes*
7. Describe the chromosomal make up of a human. *Humans have 22 pairs of autosomal chromosomes and 1 pair of sex chromosomes.*
8. In humans, why is it that the male determines the gender of the child. *Females contribute an "x" chromosome to the offspring and males contribute either an "x" or a "y". Two "x" chromosomes produce a female. One "x" and one "y" chromosome produce a male.*
9. What is a tetrad? During which phase of cell division do tetrads form? *A pair of homologous chromosomes and their copy of their DNA. This produces a group of 4 chromosomes. Tetrads form during Prophase 1 of meiosis.*
10. Meiosis results in the formation of how many and what type of cells? *4 haploid cells (sperms in males, and 1 egg and 3 polar bodies in females)*
11. Circle A: Represents the end of meiosis II
Circle B: Represents the end of mitosis
Circle C: Represents the end of meiosis I
Circle D: Represents the beginning of meiosis
Circle E: Represents the beginning of mitosis
12. What is the difference between prophase of mitosis and prophase I of meiosis? *During prophase of mitosis, sister chromatids form and during prophase I of meiosis tetrads (homologous pairs of chromosomes) form.*
13. What is the difference between metaphase of mitosis and metaphase I of meiosis. *During metaphase of mitosis, sister chromatids line up along the equator (middle) of the cell and during metaphase I of meiosis, tetrads line up at the equator.*
14. What is the difference between anaphase of mitosis and anaphase I of meiosis? *During anaphase of mitosis, sister chromatids split apart and during anaphase I of meiosis, tetrads are pulled apart.*
15. What is the difference between telophase of mitosis and telophase I of meiosis? *During telophase of mitosis, two cells with a complete set of chromosomes are forming and during telophase I of meiosis, two cells with a haploid set of chromosomes are forming.*