**Meiosis Revision Questions**

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

a. interphase
b. prophase
c. metaphase

d. anaphase

e. telophase

2. When does crossover take place in meiosis?

a. interphase
b. prophase
c. metaphase

d. anaphase

e. telophase

3. During which phase of meiosis does the nuclear membrane reform around chromosomes?

a. interphase
b. prophase I
c. metaphase II

d. anaphase I

e. telophase II

4. Homologous chromosomes move towards opposite poles of a dividing cell during...

a. mitosis
b. meiosis I
c. meiosis II

d. fertilization

e. binary fission

5. Meiosis II is similar to mitosis in that...

a. homologous chromosomes synapse
b. DNA replicates before the division
c. the daughter cells are diploid

d. sister chromatids separate during anaphase

e. the chromosome number is reduced

6. Metaphase of meiosis I and meiosis II differ in that…

a. chromosomes line up at the equator
b. homologues line up in meiosis I and duplicated chromosomes line up in meiosis II

c. sister chromatids line up in meiosis I and chromosomes line up in meiosis II
d. there are the same number of chromosomes

7. Asexually reproducing organisms produce offspring that are genetically identical to each other and to the parents. What type of cell division are the offspring a product of?

a. mitosis
b. meiosis

c. binary fission

d. fertilization

8. At which stage of meiosis do chromatids separate and become sister chromatids?

a. metaphase I
b. anaphase I
c. metaphase II

d. anaphase II

e. telophase II

9. The process in which haploid gametes are formed in diploid organisms is called:

a. cytokinesis
b. interphase
c. meiosis

d. mitosis
e. nuclear division

10. Which of the following correctly ranks nucleic acid structures in order of size, from smallest to largest?

a. chromosome, nucleotide, gene, codon
b. nucleotide, codon, gene, chromosome

c. chromosome, gene, codon, nucleotide

d. codon, nucleotide, chromosome gene

11. Independent assortment is one of the factors that contributes to genetic diversity. Independent assortment is associated with which stage of meiosis?

a. anaphase I
b. prophase I

c. metaphase I

d. anaphase II

e. metaphase II

12. The fertilized egg (zygote) of a human contains how many chromosomes?

a. 1
b. 22
c. 46

d. 23

13. Which cells of the human body are made through the process of meiosis?

a. gametes
b. somatic cells
c. all cells of the body

14. Which 2 cells would be more genetically similar to each other?

a. two gametes produced by the same person
b. two somatic cells produced by the same person
c. two eggs produced by the same woman

d. two sperm produced by the same man

15. If a diploid organism has a genome consisting of 22 chromosomes, its gametes will have \_\_\_\_\_ chromosomes.

a. 44
b. 11

c. 22

d. 88

e. 19

16. When does DNA replication occur during meiosis?

a. interphase I
b. prophase I
c. interphase II

d. prophase II
e. interphase I and II

**ANSWERS:**

1a 2b 3e 4b 5d 6b 7c 8d 9c 10b

11c 12c 13a 14b 15b 16a