

Unit 6: Reproduction Practice Test

- 1) The daughter cells of binary fission in bacteria are
 - A) structurally identical
 - B) chromosomally different
 - C) genetically identical
 - D) structurally identical and genetically identical
 - E) not genetically the same as the parent cell

- 2) During the "S" portion of interphase, what is the cell doing?
 - A) resting
 - B) general cell metabolism
 - C) synthesizing DNA
 - D) making a spindle

- 3) The longest period of a cell's life cycle is
 - A) prophase
 - B) telophase
 - C) interphase
 - D) anaphase
 - E) metaphase

- 4) Diploid cells of the fruit fly *Drosophila* have 8 chromosomes.
How many chromosomes does a *Drosophila* gamete have?
 - A) two
 - B) four
 - C) eight
 - D) sixteen

- 5) Human body cell nuclei contain
 - A) 46 pairs of chromosomes
 - B) 44 pairs of chromosomes
 - C) 23 unpaired chromosomes
 - D) 23 pairs of chromosomes

- 6) A eukaryotic chromosome is made up of
 - A) DNA only
 - B) protein and nucleic acid
 - C) loops of naked DNA
 - D) DNA and RNA only

- 7) Homologous pairs of chromosomes
- A) Consist of two chromosomes the same size and with the same genes
 - B) Consist of two chromosomes having identical alleles
 - C) Consist of two chromosomes that came from one parent
 - D) Are found in sperm and eggs
 - E) Are found in haploid cells
- 8) Which of these sequences correctly describes the cell cycle?
- A) $G_1 \rightarrow G_2 \rightarrow S \rightarrow$ prophase \rightarrow metaphase \rightarrow anaphase \rightarrow telophase
 - B) prophase \rightarrow metaphase \rightarrow telophase \rightarrow anaphase $\rightarrow G_1 \rightarrow S \rightarrow G_2$
 - C) $G_1 \rightarrow S \rightarrow G_2 \rightarrow$ prophase \rightarrow metaphase \rightarrow anaphase \rightarrow telophase
 - D) prophase \rightarrow anaphase $\rightarrow G_1 \rightarrow S \rightarrow G_2 \rightarrow$ metaphase \rightarrow telophase
- 9) The formation of a cell plate across the middle of a cell and nuclei are reforming at opposite ends of a cell.
What kind of a cell is this?
- A) an animal cell in metaphase
 - B) an animal cell undergoing cytokinesis
 - C) a plant cell in metaphase
 - D) a plant cell undergoing cytokinesis
- 10) Sister chromatids are
- A) duplicate chromosomes held together by a common centromere
 - B) specialized gamete-forming cells
 - C) homologous pairs of chromosomes
 - D) different in their genetic content
- 11) Mitosis in humans usually results in the formation of
- A) 2 diploid cells
 - B) 4 diploid cells
 - C) 2 haploid cells
 - D) 4 haploid cells
- 12) Cytokinesis is evident in animal cells when
- A) constriction occurs around the equator due to centrioles
 - B) chromosomes are observable
 - C) cell plate formation occurs because of the cell wall
 - D) a spindle apparatus forms
 - E) prophase begins

BACK

Practice Test

- 13) Sexual reproduction by necessity involves which two processes?
- A) meiosis and fertilization
 - B) mutation and translocation
 - C) mitosis and fertilization
 - D) differentiation and specialization
- 14) Which of the following is a consequence of sexual reproduction, as compared to asexual reproduction?
- A) The offspring will be very similar to each other
 - B) There will be few offspring with undesirable traits
 - C) There will be more genetic diversity among the offspring
 - D) The offspring will have a diploid chromosome number twice that of their parents
 - E) There will be fewer mutations
- 15) Which of the following is a haploid?
- A) zygote
 - B) gamete (sex cell)
 - C) muscle cell
 - D) embryo
- 16) In sexually reproducing organisms, the source of chromosomes in the offspring is
- A) almost all from one parent, usually the father
 - B) almost all from one parent, usually the mother
 - C) half from the father and half from the mother
 - D) the X comes from the mother and the autosomes come from the father
 - E) a random mixing of chromosomes from both parents
- 17) Gametes differ from body cells in
- A) having only one member of each pair of homologous chromosomes
 - B) being haploid
 - C) functioning in sexual reproduction
 - D) having half the amount of genetic material
 - E) All the above choices are correct

- 18) Meiosis
- A) is a purely random division of chromosomes and contains diploid cells with unpaired chromosomes
 - B) doubles the number of chromosomes and contains diploid cells with paired chromosomes
 - C) reduces the number of chromosomes by half and contains haploid cells with unpaired chromosomes
 - D) does not change the number of chromosomes and has haploid cells with paired chromosomes
 - E) allows chromosomes to split in half
- 19) Reciprocal exchange of genetic material between similar chromosomes is called
- A) synapsis
 - B) segregation
 - C) tetrad formation
 - D) meiosis
 - E) crossing-over
- 20) Chromosomes exchange genetic material by
- A) segregation during Prophase II
 - B) mitosis during Metaphase I
 - C) synapsis during Anaphase I
 - D) fertilization during Telophase II
 - E) crossing over during Prophase I
- 21) The products of meiosis are
- A) one nucleus containing twice as much DNA as the parent nucleus
 - B) two genetically identical cells
 - C) four nuclei containing half as much DNA as the parent nucleus
 - D) four genetically identical nuclei
 - E) two genetically identical nuclei
- 22) Which is NOT a source of variety in sexually reproducing species?
- A) crossing over
 - B) DNA replication
 - C) distribution of chromosomes in gametes
 - D) fertilization
 - E) independent assortment of chromosomes during meiosis I
- 23) What are the major sources of genetic variation in sexual reproduction?
- A) shuffling of homologues during meiosis I
 - B) crossing over
 - C) random fusion of gametes
 - D) A and B both contribute genetic variation
 - E) A, B, and C all contribute genetic variation