Meiosis: Practice Questions #1

1. Which species is most likely to survive changing environmental conditions?

   A. a species that has few variations
   B. a species that reproduces sexually
   C. a species that competes with similar species
   D. a species that has a limited life span

2. Which phrase does *not* describe cells cloned from a carrot?

   A. they are genetically identical
   B. they are produced sexually
   C. they have the same DNA codes
   D. they have identical chromosomes

3. Human egg cells are most similar to human sperm cells in their

   A. degree of motility
   B. amount of stored food
   C. chromosome number
   D. shape and size

4. Sexual reproduction involves the processes listed below.

   Processes
   A. Differentiation
   B. Fertilization
   C. Gamete production
   D. Mitosis

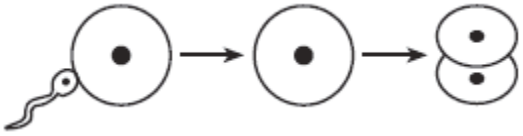
Which sequence represents the order in which these processes occur?

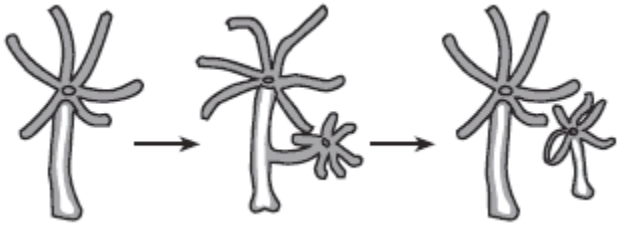
   A. $A \rightarrow B \rightarrow C \rightarrow D$
   B. $B \rightarrow A \rightarrow C \rightarrow D$
   C. $C \rightarrow B \rightarrow D \rightarrow A$
   D. $D \rightarrow B \rightarrow C \rightarrow A$

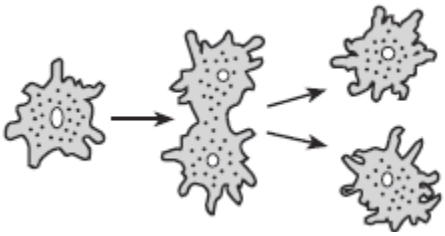
5. A dogfish shark contains 24 chromosomes in each of its muscle cells. How many chromosomes are normally found in each of its gametes?

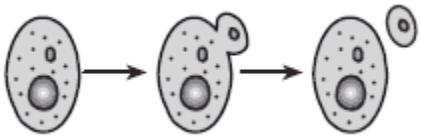
   A. 6
   B. 12
   C. 24
   D. 48

6. Which process usually results in offspring that exhibit new genetic variations?

A. 

B. 

C. 

D. 

7. A species in a changing environment would have the best chance of survival as a result of a mutation that has a

A. high adaptive value and occurs in its skin cells
B. low adaptive value and occurs in its skin cells
C. high adaptive value and occurs in its gametes
D. low adaptive value and occurs in its gametes

8. Which statement concerning production of offspring is correct?

A. Production of offspring is necessary for a species to survive, but it is not necessary for an individual to survive.
B. An organism can reproduce without performing any of the other life processes.
C. Production of offspring is necessary for an individual organism to survive, while the other life processes are important for a species to survive.
D. Reproduction is a process that requires gametes in all species.

9. Which sequence represents the correct order of processes that result in the formation and development of an embryo?

A. meiosis → fertilization → mitosis
B. mitosis → fertilization → meiosis
C. fertilization → meiosis → mitosis
D. fertilization → mitosis → meiosis

10. The puppies shown in the photograph below are all from the same litter.

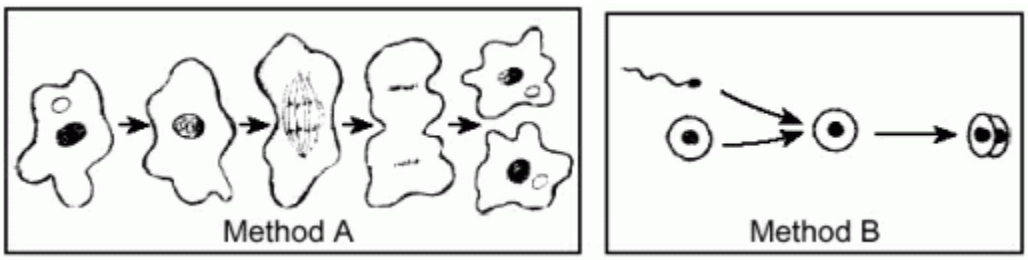
The differences seen within this group of puppies are most likely due to

A. overproduction and selective breeding
B. mutations and elimination of genes
C. evolution and asexual reproduction
D. sorting and recombination of genes

11. Removal of one ovary from a human female would most likely

A. affect the production of eggs
B. make fertilization impossible
C. make carrying a fetus impossible
D. decrease her ability to provide essential nutrients to an embryo

12. How does the type of reproduction shown in method *A* in the diagram differ from the type of reproduction shown in method *B* ?



A. Method *A* illustrates sexual reproduction, and method *B* illustrates asexual reproduction.
B. Offspring produced by method *B* will be genetically alike, but offspring produced by method *A* will be genetically different.
C. The two cells shown in the last step of method *A* are genetically alike, but the two cells shown in the last step of method *B* are genetically different.
D. Offspring produced by method *A* will be genetically like the parent, but offspring produced by method *B* will be genetically different from the parents.

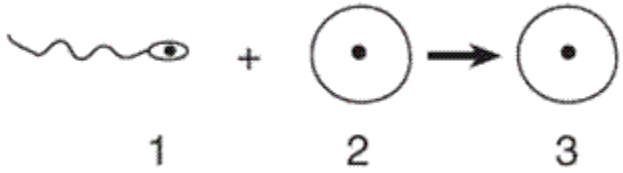
13. In sexually reproducing species, the number of chromosomes in each body cell remains the same from one generation to the next as a direct result of

A. meiosis and fertilization
B. mitosis and mutation
C. differentiation and aging
D. homeostasis and dynamic equilibrium

14. Which cell is normally produced as a direct result of meiosis?

A. a uterine cell having half the normal species number of chromosomes
B. an egg having the full species number of chromosomes
C. a zygote having the full species number of chromosomes
D. a sperm having half the normal species number of chromosomes

15. Some cells involved in the process of reproduction are represented in the diagram below.



The process of meiosis formed

A. cell 1, only
B. cells 1 and 2
C. cell 3, only
D. cells 2 and 3

Answer Key 1: Meiosis

1. B
2. B
3. C
4. C
5. B
6. A
7. C
8. A
9. A
10. D
11. A
12. D
13. A
14. D
15. B