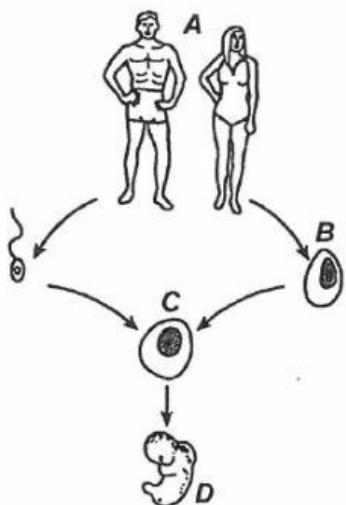


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Living Environment – Topic 4 Practice

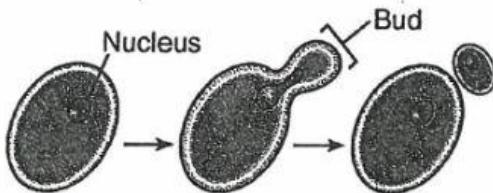
1) The diagram below shows stages of human reproduction.



The direct result of fertilization is represented at which letter in the diagram?

A) *A* C) *C*
B) *B* D) *D*

2) The diagram below illustrates asexual reproduction in yeast.



Yeast produce offspring that usually have

- A) organelles that are not found in the parent
- B) genes that are different from those of the parent
- C) half of the genetic information of the parent
- D) genes that are identical to those of the parent

___ 3) If a chemical that interrupts cell division is added to a culture of human liver tissue, which process would stop?

- A) breakdown of glucose
- B) meiosis
- C) diffusion of nutrients
- D) mitosis

___ 4) The diagram below represents structures found in a human female.



Which process results in the formation of structure *X*?

- A) cloning
- B) meiosis
- C) mitosis
- D) recombination

A pathogen passing from a mother to her fetus could cause

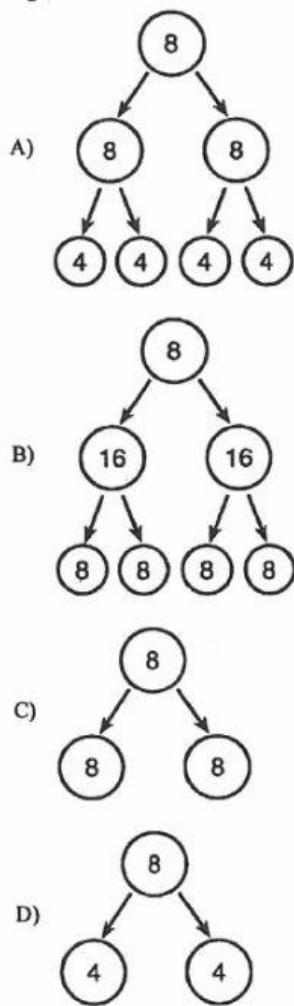
- A) gamete production to increase
- B) a decrease in the chromosome number of the fetus
- C) an infection in the fetus
- D) an increase in milk production in the mother

In most mammals, the placenta is essential to the embryo for the processes of

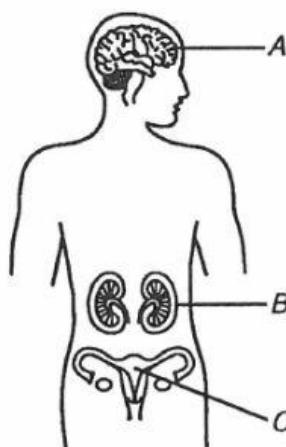
- A) meiosis and excretion
- B) nutrition and excretion
- C) blood exchange and digestion
- D) milk production and digestion

7)

The number in each circle below represents the chromosome number of the cell. Which diagram represents the production of offspring by an asexually reproducing organism?



8)



Structure C in the given diagram is part of which body system?

9)

Which statement describes a function of the human male reproductive system?

- A) It produces gametes in testes.
- B) It supplies a fluid that protects the fetus.
- C) It provides nutrient materials through a placenta.
- D) It provides support for the development of the embryo.

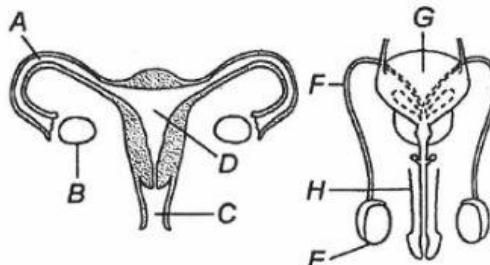
10)

Exposure to toxins during early stages of pregnancy is more likely to cause birth defects than exposure in late pregnancy because

- A) the placenta forms during late pregnancy
- B) essential organs form during early development
- C) the uterus provides more protection in late pregnancy
- D) meiosis occurs rapidly during early development

Questions 11 and 12 refer to the following

The diagram represents the reproductive systems of the human female and male.



— 11 —

In which of the given structures do gametes usually unite to produce a zygote?

A) A C) C
B) F D) G

12)

In which of the given structures would *both* mitosis and differentiation of an embryo occur?

A) *E* C) *G*
B) *B* D) *D*

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Sexual reproduction in a species usually results in

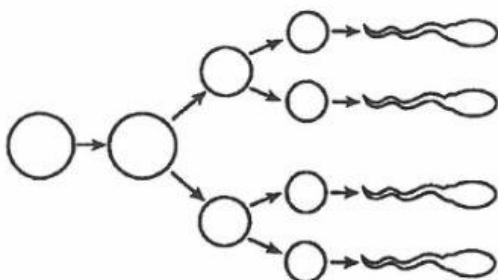
- A) offspring genetically identical to the parent
- B) an increase in the chromosome number in the offspring
- C) a decrease in biodiversity
- D) recombination of genes

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Which situation would be part of the normal reproductive cycle of a human?

- A) estrogen in concentrations that would produce sperm in a female
- B) the presence of testosterone regulating gamete production in a male
- C) a high progesterone level in a male
- D) a low insulin level in either a male or a female

15) Which of the following statements concerning the reproductive cells in the diagram below is correct?



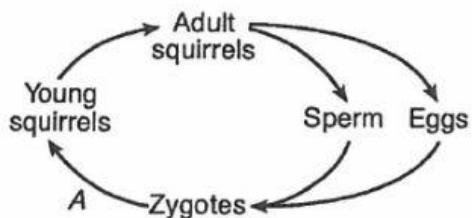
- A) Each of these cells contains only half the genetic information necessary for the formation of an offspring.
- B) An egg fertilized by one of these cells will develop into a female with the same characteristics as the mother.
- C) The cells are produced by mitosis and contain all the genetic information of the father.
- D) If one of these cells fertilizes an egg, the offspring will be identical to the father.

16) Abnormalities present in the cells that line the uterus may prevent the production of offspring by directly interfering with the

- A) development of the embryo
- B) secretion of estrogen by the ovary
- C) differentiation of gametes into zygotes
- D) production and release of egg cells

Questions 17 and 18 refer to the following:

The diagram below represents the reproductive cycle of a squirrel species with 40 chromosomes in each zygote.



17) A liver cell in the species of squirrel described would have

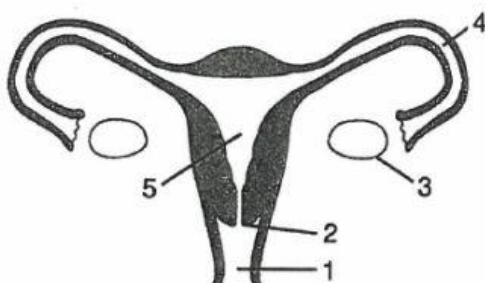
- A) 40 chromosomes
- B) 20 chromosomes
- C) 60 chromosomes
- D) 80 chromosomes

18) A process that could be represented by letter A in the given diagram is

- A) meiosis
- B) fertilization
- C) mitosis
- D) mutation

19)

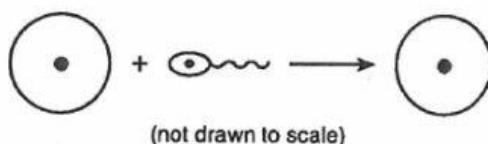
The human female reproductive system is represented in the diagram below.



Production of gametes and support of the fetus normally occur in which structures?

- A) 2 and 4
- B) 3 and 5
- C) 1 and 2
- D) 4 and 5

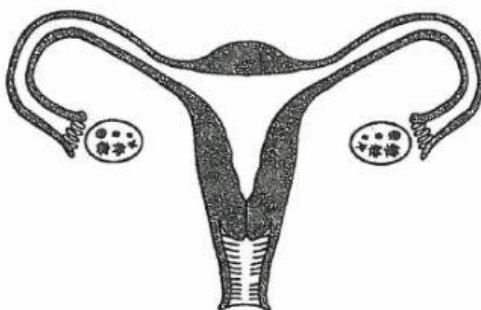
The diagram below represents a process that occurs during human reproduction.



The process represented by the arrow will ensure that the

- A) gametes contain a complete set of genetic information
- B) zygote contains half of the genetic information
- C) zygote contains a complete set of genetic information
- D) gametes contain half of the genetic information

The diagram below represents part of a human reproductive system.



One of the functions of this part of the system is to

- A) provide nutritional support for the embryo
- B) supply essential nutrients to the offspring in the form of milk
- C) provide a structure that allows the mixing of maternal and fetal blood
- D) produce specialized proteins used in the production and release of sperm

___ 22) Which of the following situations involves a risk to a fetus due to the mother smoking during pregnancy?

- inhalation of secondhand smoke by the fetus
- toxins in the bloodstream of the mother
- decreased digestive activity in the stomach of the fetus
- a decrease in the amount of oxygen in the ovary of the mother

___ 23) Sexual reproduction involves the processes listed below.

Processes

- Differentiation
- Fertilization
- Gamete production
- Mitosis

What sequence represents the order in which these processes occur?

- $D \rightarrow B \rightarrow C \rightarrow A$
- $A \rightarrow B \rightarrow C \rightarrow D$
- $B \rightarrow A \rightarrow C \rightarrow D$
- $C \rightarrow B \rightarrow D \rightarrow A$

___ 24) The drinking of alcoholic beverages by a pregnant woman is harmful to the development of her fetus. This is most damaging early in a pregnancy because during this time

- the fetus cannot excrete wastes
- alcohol can easily enter the mouth of the fetus
- many of the essential organs of the fetus are forming
- the lungs of the fetus become functional

___ 25) What normally happens immediately after fertilization in sexual reproduction?

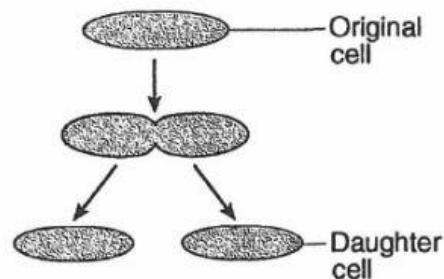
- division of cells resulting in the development of an embryo from a zygote
- production of daughter cells having half the number of chromosomes as the parent cell
- specialization of cells to form a fetus from an egg
- production of daughter cells having twice the number of chromosomes as the parent cell

___ 26) Which organism would most likely have new gene combinations?

- a hamster resulting from sexual reproduction
- a frog that was produced from a skin cell of a frog
- a starfish that grew from part of a starfish
- a bacterium resulting from asexual reproduction

___ 27)

The diagram below represents division of a cell that produces two daughter cells.

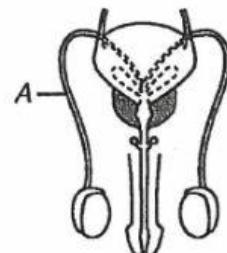


Which statement most likely describes the daughter cells produced?

- The daughter cells will each produce offspring that will have the same genetic information as the original cell.
- The daughter cells will pass on only half of the genetic information they received from the original cell.
- The daughter cells will each undergo the same mutations as the original cell after reproduction has occurred.
- The daughter cells will not pass on any of the genes that they received from the original cell.

___ 28)

A reproductive system is represented in the diagram below.



If an injury occurred to the structure labeled A, the most likely result would be a problem with

- production of gametes
- delivery of sperm
- production of hormones
- excretion of urine

___ 29)

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

- 48
- 24
- 12
- 6