

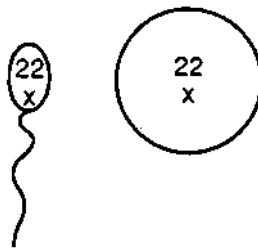
1. Which statement correctly describes the normal number and type of chromosomes present in human body cells of a particular sex?

- (1) Males have 22 pairs of autosomes and 1 pair of sex chromosomes known as XX.
- (2) Females have 23 pairs of autosomes.
- (3) Males have 22 pairs of autosomes and 1 pair of sex chromosomes known as XY.**
- (4) Males have 23 pairs of autosomes.

2. Which pair of gametes can unite to produce a zygote that will develop into a normal human male embryo?

- (1) (2)
- (3)
- (4)

3. The diagram below represents human gametes.



Which statement best describes the fertilized egg that would result if this sperm cell and egg cell unite?

- (1) It would contain 44 autosomes and develop into a male.
- (2) It would contain 44 autosomes and develop into a female.**
- (3) It would contain 46 sex chromosomes and develop into a female.
- (4) It would contain 46 sex chromosomes and develop into a male.

4. The sex of a human baby is usually determined by the

- (1) egg cell involved in fertilization
- (2) sperm cell involved in fertilization**
- (3) rate of development of the placenta
- (4) blood type of the mother

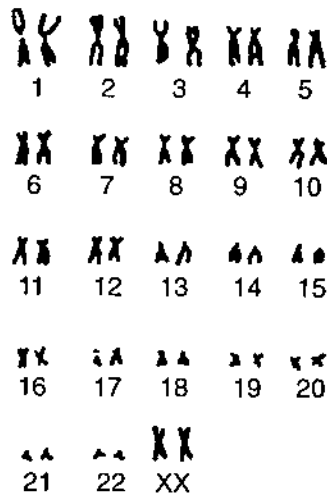
5. Which diagram best represents the formation of a zygote that could develop into a normal human male?

- (1)
- (2)
- (3)
- (4)

6. If a defective gene occurs on the X-chromosome, it will normally be transmitted to male offspring only by

- (1) the mother**
- (2) the father
- (3) segregation
- (4) mutation

7. Which phrase best describes a human with the chromosomes represented in the diagram below?



- (1) a female who exhibits Down syndrome
 (2) a male who exhibits Down syndrome
 (3) a female who does *not* exhibit Down syndrome
 (4) a male who does *not* exhibit Down syndrome

8. Which diagram represents a sperm that can unite with a normal egg to produce a zygote that will develop into a normal human male embryo?



9. The development of a normal human zygote into a male or female is determined by
 (1) an autosome contributed by the egg
 (2) a sex chromosome contributed by the egg
 (3) an autosome contributed by the sperm
 (4) a sex chromosome contributed by the sperm

10. In humans, sex is normally determined at fertilization by
 (1) one pair of sex chromosomes
 (2) 2 pairs of sex chromosomes
 (3) 11 pairs of autosomes
 (4) 22 pairs of autosomes

11. A normal human egg cell contains
 (1) 22 autosomes and one X-chromosome
 (2) 22 autosomes and one Y-chromosome
 (3) 44 autosomes and XX-chromosomes
 (4) 44 autosomes and XY-chromosomes

12. The sex of a person depends on
 (1) the genetic makeup of autosomes found in the egg cell
 (2) the genetic makeup of autosomes found in the sperm cell
 (3) whether the unfertilized egg contains an X- or Y-chromosome
 (4) whether the sperm that fertilizes the egg contains an X- or Y-chromosome

13. Which diagram illustrates fertilization that would most likely lead to the development of a normal human female?

