Chapter 20 - Genetics and Human Inheritance

1) Specific segments of DNA that are the functional units of inheritance are called __________.

2) In this heredity pattern, both alleles appear in the phenotype of the heterozygote.

3) If your parents are heterozygous for a gene, what is the chance that you will have at least one copy of it?

4) Which genetic condition can be described as the inheritance of the heterozygous phenotype, which is expressed as an intermediate between the dominant and recessive alleles?

5) Which is an observed property or is an outward appearance of a trait?

6) When one gene causes multiple effects, it is called ______________.

7) If two chromosomes have the same genes, they are said to be ____________.

8) If someone were to be heterozygous for a recessive genetic illness, it would be said that they are a(n) ____________.

9) Which is a condition caused by a sex-linked inheritance in which a male child will bleed extensively because he lacks the physiological properties to form a blood clot?

10) A cardiac researcher is trying to determine if a pattern of very high blood cholesterol is genetic in a group of Pennsylvania Dutch. Therefore, the scientist looks through years of medical records, plus patterns of marriage through several generations. The investigator is doing a type of hereditary research called ________________.

11) Thalassemia is a very serious disorder that affects the hemoglobin that is caused by an autosomal recessive gene. If both woman and man don't have the condition but carry the gene, what is the chance that they will have a child with the disease?

12) The gene for Tay-Sachs disease codes for a nonfunctional form of the enzyme hexosidaminase A (or Hex A). It has been found that a person with only one-third the maximum amount of Hex A can function absolutely normally. Please characterize the heredity of Tay-Sachs disease as:
   1. Co-dominant
   2. Recessive
   3. Dominant
   4. Incomplete dominance
   5. Multiple allelic.
13) Favism is a disease in which a person cannot tolerate a certain type of bean. It is caused by an X-linked, recessive gene. If Joe has it, which statement would be true?
1. His daughters will carry it.
2. All his sons will have it.
3. Joe’s father had it.
4. Half of Joe’s sons will have it.

14) Babies were accidentally switched at the hospital! Mr. and Mrs. Fire both have type O blood. Which of the following babies of the same age is most likely to be the Fire child?

A baby with type A, type B, type AB, or type O.

15) The principle that states that different homologous chromosomes travel randomly to different ends of the cell is ________.

16) What is the condition called in which red blood cells become crescent shaped due to abnormal hemoglobin and stick together?