A picture containing text, clipart

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CHAPTER 8 – GENETICS

1. Mendel’s model system used in his studies was:
   1. Humans
   2. Insects
   3. Roses
   4. Garden peas
2. First generation of offspring is labeled:
   1. P
   2. F1
   3. F2
   4. F3
3. The upper case letter is used as a symbol for which type of genes:
   1. Heterozygous
   2. Homozygous
   3. Recessive
   4. Dominant
4. An organism with two copies of the same gene is called:
   1. Heterozygous
   2. Homozygous
   3. Recessive
   4. Dominant
5. A carrier organism is:
   1. Heterozygous
   2. Homozygous
   3. Recessive
   4. Dominant
6. A heterozygous means that the organism will show the \_\_\_\_\_\_\_\_ feature in its phenotype.
   1. Heterozygous
   2. Homozygous
   3. Recessive
   4. Dominant
7. The genotype of an organism with these genes “TT” is called:
   1. Heterozygous recessive
   2. Homozygous dominant
   3. Homozygous recessive
   4. Heterozygous dominant
8. You have a recessive disease however, your parents are normal. Most probably your parents are:
   1. Heterozygous
   2. Homozygous
   3. Recessive
   4. Dominant
9. In codominance, the heterozygous from crossing white and red plants will be:
   1. White
   2. Red
   3. Pink
   4. White & red
10. In incomplete dominance, the heterozygous from crossing white and red will be:
    1. White
    2. Red
    3. Pink
    4. White & red
11. In case of a man with a recessive gene present on the X chromosome, what would his genotype be:
    1. XaXa
    2. XaXA
    3. XaY
    4. XAY
12. If you cross two heterozygous organisms the ratio of their offspring genotypes is:
    1. 1:2:1
    2. 2:1
    3. 2:2
    4. 3:1
13. If you cross two heterozygous organisms the ratio of their offspring phenotypes is:
    1. 1:2:1
    2. 2:1
    3. 2:2
    4. 3:1
14. If you cross one homozygous dominant with a heterozygous the ratio of their offspring genotypes is:
    1. 1:2:1
    2. 2:1
    3. 2:2
    4. 3:1
15. Two alleles of the same gene are present on:
    1. Homologous chromosomes
    2. Non-homologous chromosomes
    3. Same chromosome
    4. Sex chromosomes

GENETICS PROBLEM

**One new family was surprised to see their child has blue eyes when none of them (mother and father) presented this eye color but brown.**

1. Choose the correct answer:
2. The dominant feature is the brown-eyes color and recessive is the blue-eye color
3. The dominant feature is the blue-eye color and recessive is the brown-eye color
4. Both features are dominant
5. Both features are recessive

1. Indicate the letter to symbolize the genes for:
2. Blue-eye color is “B” and brown-eye color is “b”
3. Brown color is “B” and blue color is “b”
4. Both colors are “B”
5. Both colors are “b”
6. Choose the correct parent genotypes for this problem:
7. Mother is homozygous dominant and father heterozygous
8. Mother is heterozygous and father is homozygous dominant
9. Both are heterozygous
10. Both are homozygous dominant

1. The probability for these parents to have a baby with blue eye color is:
   1. 100%
   2. 75%
   3. 50%
   4. 25%
2. The probability for these parents to have a baby carrier for blue eye color gene is:
   1. 100%
   2. 75%
   3. 50%
   4. 25%
3. Choose the correct genotype for the following features (independent of this problem):
   1. Brown-eye color is BB and blue is bb
   2. Blue-eye color is BB and brown is bb
   3. Both eye colors are due to Bb
   4. Brown is BB or Bb and blue is bb