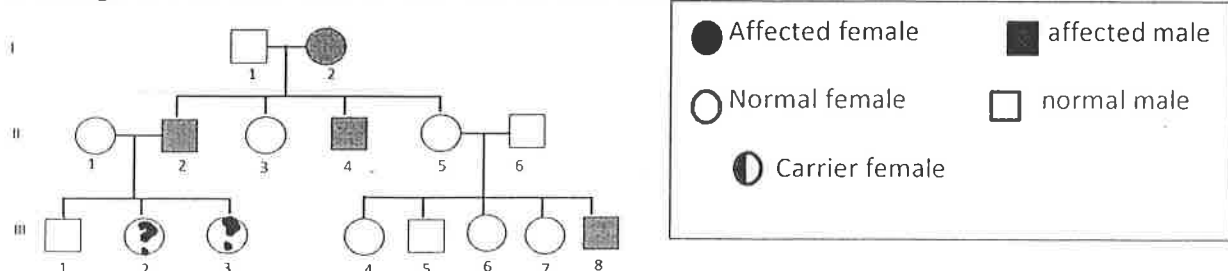


Biology 1 ~ Chapter 7 Study Guide

1. What is the difference between autosomes and sex chromosomes?
2. A gene is described as being found on autosomes, what does this mean?
3. How many copies of chromosomes do sexually reproducing offspring have?
4. What are genes located on sex chromosomes called?
5. What is a carrier?
6. Sex chromosomes are 'X' and 'Y'. List the genotype for a male and a female.
7. From who does a male inherit his X chromosome?
8. In males, why are alleles found on the sex chromosome always expressed?
9. Describe incomplete dominance and give an example.
10. Describe codominance and give an example.
11. Describe polygenic traits and given an example.
12. What is a chart that traces the phenotypes and genotypes within a family called?
13. What information can one obtain from a karyotype?
14. How many pairs of chromosomes do human body cells have?
15. What has the ability to change the way a gene is expressed?
16. What is the difference between a phenotype and genotype?
17. What is epistasis?
18. What method would best identify the genetic disorder Down Syndrome, having an extra copy of chromosome 21?
19. Suppose 2 plants with light purple (lavender) flowers are crossed. About 25% of the offspring have white flowers, 25% have purple, and 50% have lavender flowers. Which inheritance pattern could explain these results? Explain.
20. Some members of David's family have an autosomal recessive disease. David does not have the disease; neither do his parents, nor his two brothers. His maternal grandfather has the disease, his paternal grandmother has the disease, and his sister has the disease. Draw a pedigree chart to represent the genotypes of all grandparents, parents, and children. Next to each person, write his or her possible genotype.
21. Duchenne's muscular dystrophy is x-linked recessive. If a normal female (non-carrier) and affected male have children, what % of their male offspring would be expected to have Duchenne's muscular dystrophy?
22. Straight hair is incompletely dominant over curly hair and "wavy" hair is the intermediate phenotype. What would be the expected genotypic ratios in a cross between a female with wavy hair and a male with curly hair?
23. What are all the possible blood types when a man with type A blood and woman type O blood have children?
24. When a codominant inheritance pattern is observed in cows, three phenotypes result- black, white, and black & white spotted. What offspring would you expect from mating a black cow and a black & white spotted cow?
25. A man with hemophilia has children with a woman who is a carrier. Knowing that this is an x-linked trait, what percentage of their male children will have the disorder?



26. How many generations are shown? How many affected individuals are there?
 What is the most probable mode of inheritance?
 What is the phenotype for individuals 2 & 3 from generation III?