

Genetics Quiz I Study Guide

Part 1: Vocabulary-Define all of the following terms:

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|---------------|--------------------------|
| 1. Gene | 11. Genetics |
| 2. Trait | 12. Heterozygous |
| 3. Genotype | 13. Homozygous |
| 4. Phenotype | 14. Purebred |
| 5. DNA | 15. Hybrid |
| 6. Dominant | 16. Heredity |
| 7. Recessive | 17. RNA |
| 8. Allele | 18. Multiple Alleles |
| 9. Chromosome | 19. Incomplete Dominance |
| 10. Heredity | 20. Co-dominance |

Part II

21. Who is considered the “father” of genetics?
22. What are chromosomes made of?
23. What is the difference between ***mitosis*** and ***meiosis***?
24. Which cell process produces ONLY gametes, or sex cells?
25. What is haploid? Give an example of a haploid cell.
26. What is diploid? Give an example of a diploid cell.
27. DNA consists of a repeating series of _____?
28. What ***THREE*** components make up a nucleotide?
29. How many chromosomes are in every human ***somatic*** cell?

30. How many chromosomes are in every *gamete*?
31. In order to see a recessive trait in an organism's phenotype, what must be the organism's genotype?
32. A plant with a dominant homozygous trait is crossed with a plant with a recessive homozygous version of that trait. What is the probability that the offspring will display the dominant trait in its phenotype?
33. What is Translation ?
34. What is transcription?
35. An organism with TWO different alleles for a particular trait is considered to be _____ or _____.
36. What is the central dogma?
37. Freckles=recessive. Cross a **heterozygous** parent with **NO** freckles with a parent with freckles. What is the probability that the offspring will have freckles?
38. In dogs, long tails are dominant over short tails. Cross a **heterozygous** tailed dog with a **homozygous recessive** dog. What is the probability that the dog will have a long tail?
What is the probability that the dog will have a short tail?
39. What are the three types of RNA and their functions?