

Chapter 13

Genetic Technology

Reinforcement and Study Guide

Section 13.1 Applied Genetics

In your textbook, read about selective breeding and determining genotypes.

Complete each statement.

- Organisms that are homozygous dominant and those that are _____ for a trait controlled by Mendelian inheritance have the same phenotype.
- A _____ determines whether an organism is heterozygous or homozygous dominant for a trait.
- Usually the parent with the known genotype is _____ for the trait in question.
- When two cultivars are crossed, their offspring will be _____.

Answer the following.

- A breeder performs a testcross to determine whether an Alaskan malamute is homozygous dominant (DD) or heterozygous (Dd) for a recessive dwarf allele. Half the offspring appear dwarf. What is the genotype of the unknown dog? Complete the Punnett square to verify your answer.

- What results would be expected if the unknown dog was homozygous dominant (DD)? Complete the Punnett square to verify your answer.

