

1. How does a breeder determine the exact genotype if the trait is dominant?
2. What is a test cross?
3. What is the outcome if the parent is homozygous dominant? What about heterozygous?
4. Type II: Explain Figure 2 in a minimum of 7 sentences. Be sure to use and underline the following words: homozygous recessive, homozygous dominant, heterozygous, test cross, genotype (genotypic ratio), phenotype (phenotypic ratio).
5. Predict the phenotype of offspring from a test cross between a seedless orange (that is recessive) and an orange with seeds that heterozygous.
6. In dogs, there is a hereditary deafness caused by a recessive gene, "d." A kennel owner has a male dog that she wants to use for breeding purposes if possible. The dog can hear, so the owner knows his genotype is either DD or Dd. If the dog's genotype is Dd, the owner does not wish to use him for breeding so that the deafness gene will not be passed on. This can be tested by breeding the dog to a deaf female (dd). Draw the Punnett squares to illustrate these two possible crosses.
 - a. In each case, what percentage/how many of the offspring would be expected to be hearing? deaf?
 - b. How could you tell the genotype of this male dog?
 - c. Also, using Punnett square(s), show how two hearing dogs could produce deaf offspring.