Name:_____ check in genetics 1

1. **For each genotype below, circle the homozygous genotypes:**

TT	Bb	DD	Ff	tt	dd
Dd	ff	Tt	bb	BB	FF

2. Which of the following genetic crosses may yield recessive offspring?

A. TT x TT B. TT x Tt C. Tt x Tt D. TT x tt

3. How can two organisms look the same for a given trait, but have different genotypes for the trait?

A. one is homozygous dominant and the other is heterozygous
B. both are heterozygous for the dominant trait
C. one is homozygous dominant and the other is homozygous recessive
D. both are homozygous for the dominant trait

4. Dr. Smith's parents have normal hearing. However, Dr. Smith has an inherited form of deafness. Deafness is a recessive trait that is associated with the abnormal allele d. The normal allele at this locus, associated with normal hearing, is D. Dr. Smith's parents could have which of the following genotypes?

A)dd and dd C)DD and DD E)Dd and Dd
B)Dd and DD D)DD and dd

5. The different alleles (D or d) of a gene are found on:

A) homologous chromosomes
B) only one chromosome
C) sister chromatids, but not homologous chromosomes
D) random chromosomes

6. Which of the following crosses should result in a 1:2:1 genotypic ratio and a 3:1 phenotypic ratio?

A) vv X VV C) vv X vv E) Vv X Vv
B) Vv X vv D) Vv X VV

7. For each example below, state whether the trait is inherited as incomplete dominance or codominance.

- Flowers can be white, pink, or red.

probably incomplete dominance

- Cows can be red, white, or roan (a cow with individual white hairs and individual red hairs)

probably codominance

- A cat can be black or red or calico (both red spots and black spots)

probably codominance