Genetics Questions

1. What is homozygous? Heterozygous?

2. What is phenotype? Genotype?

3. Describe dominant/recessive, codominance, incomplete dominance and sex linked. How are alleles symbolized for each?

4. Black is dominant to green. Cross two heterozygotes using each of the four allele interactions in questions 3. Make a punnett square and phenotype list for each cross.

Dominant/Recessive:

Codominance:

Incomplete dominance:

Sex linked:

Huberphobia is caused by a recessive allele (h). Huberphilia is caused by a dominant allele (H). Use the pedigree to answer the following questions.

(Refer to adapted Pedigree Image)

5. Is Huberphilia shaded or white? How do you know?

6. What is the gender of individual II-4?

7. How many huberphiliacs are in this family?

8. What are the genotypes of individual I-1 and I-2?

9. What are the genotypes of individual II-2 and II-3?

10 Which child is the youngest in the third generation?

11 Who is the oldest in the second generation?

12 Is Huberphilia sex linked? How do you know?

13. There are four alleles for rabbit fur color. Black, chinchilla, himalayan and white. Black (B) is dominant to all. Chinchilla (b^ch) is dominant to himalayan (b^h) and white (b). Himalayan is dominant to white.

14. Cross a black rabbit that is heterzygous for himalayan with a heterzygous himalayan rabbit.

15.List the possible combinations of heterozygous chinchilla crosses (you do not need to do punnett squares for this question).

16.How many possible crosses of two chinchilla rabbits could produce a himalayan rabbit?

17. A bunny is himalayan. What genotype(s) are NOT possible for its father?