

SI Session 14

1. A red bull is crossed with a white cow and all of the offspring are roan, an intermediate color that is caused by the presence of both red and white hairs. This is an example of _____?
 - a. Incomplete Dominance
 - b. Codominance
 - c. Epistasis

2. How is Tay-Sachs recessive at phenotypic level but incompletely dominant at the biochemical level?

3. Human blood groups are governed by three alleles, A, B, and O. A and B are codominant and O is recessive to both. A man who has type B blood and a woman who has type A blood could have children of which of the following phenotypes? (**HINT**: write out the possible alleles)
 - a. A or B only
 - b. AB
 - c. AB or O
 - d. A, B, or O
 - e. A, B, AB, or O

4. Which of the following matings cannot produce a child with blood type O? The letters refer to blood types (phenotypes).
 - a. A x B
 - b. A x A
 - c. O x O
 - d. O x AB

5. Epistasis occurs when the expression of a gene at one locus is affected by _____.

A gene at another locus

6. How does the E/e gene affect coat color in Labrador retrievers?
7. Color in squash is controlled by epistatic interactions in which color is recessive to no color. At the first locus white squash (*W*) is dominant to colored squash (*w*). At the second locus yellow (*Y*) is dominant to green (*y*). What is the phenotype of a squash with the genotype *wwYy*?
- Green
 - White
 - Yellow
 - Yellow stripes
8. In reference to question 7, which genotypes would result in a white color? A green color?