

Name _____

Date _____

Biology- Ms. Strang

Homework

Crosses involving incomplete dominance and codominance

In the space below each problem, show all work used to find your answers (genotypes of parents, Punnett squares, etc.).

1. In Japanese four-o'clocks, pink plants are produced by crossing a red plant with a white one. Predict the phenotypic ratios of a cross between:
 - a. A red plant and a white plant.
 - b. A white plant and a pink plant.
 - c. A red plant and a pink plant.
 - d. Two pink plants.

2. There are three types of radishes: round, long, and oval. What are the genotypes of the parents if the following offspring are produced from separate crosses:
 - a. 342 oval radishes
 - b. 48 oval and 52 long
 - c. 141 oval and 137 round

3. Andalusians are a special breed of fowl. When black bird (dark blue) is crossed with a white bird, light blue offspring result. What phenotypic ratios may be expected in the offspring in the following crosses:
 - a. Two light blue birds?
 - b. A black bird crossed with a light blue bird?

4. Roan cattle are produced by crossing a red cow with a white bull (or a white cow with a red bull). What ratios may be expected in a cross between two roans?

5. In some cats the gene for tail length shows incomplete dominance. Cats with long tails and those with no tails are homozygous for the respective alleles. Cats with one long-tail allele and one no-tail allele have short tails. Predict the phenotypic ratio of a cross between:

a. A long-tail cat and a cat with no tail.

b. A long-tail cat and a short-tail cat.

c. Two short-tail cats.