**Incomplete Dominance Problems**

1. In the Japanese four O’clock plant incomplete dominance occurs. Red and White parents will result in pink. Cross a red with a pink. Show all workings.
2. A dog with **straight** fur (SS) was mated with a dog with **curly** fur (S’S’). All the F1’s had **wavy** fur. Two F1’s were mated. The F2 generation consisted of 8 pups – 2 with **straight** fur, 4 with **wavy** fur, and 2 with **curly** fur. Diagram the cross of the F1 and F2 generation, showing all workings.
3. In radishes, two incompletely dominant genes control color and shape. Red and white radishes are homozygous, whereas the hybrid is purple. Long and round radishes are homozygous and if crossed, with produce an oval hybrid. Complete a punnett square to show the genotypes and phenotypes produced by crossing pure breeding red long radishes with white round radishes.
4. In horses, chestnut fur and white fur are incompletely dominant, producing palimino

(tan). What is the phenotypic ratio of a cross between two palimino horses?

(A) 25% palimino, 50% chestnut, 25% white

(B) 50% palimino, 25% chestnut, 25% white

(C) 50% palimino, 50% white

(D) 75% palimino, 25% white

**Co-Dominance Problems**

1. A cross between a black cat & tan cat produces a tabby pattern (black and tan together). What percent of kittens would have tan fur if a tabby cat is crossed with a black cat? Show your workings.
2. In shorthorn cattle, the gene (R) for red coat is codominant to the gene for white (W). The heterozygous condition (RW) produces roan. A breeder has white, red and roan cows and bulls. What phenotypes might be expected from the following matings and in what proportion?
   1. White and Roan
   2. White and Red
   3. Roan and Roan
3. In horses, roan coats (red and white hairs) result from codominance. If a roan male is

mated with a white female, what would be the expected phenotype ratios?

(A) all roan

(B) ½ roan, ¼ red, ¼ white

(C) ½ roan, ½ red

(D) ½ roan, ½ white