

# Practice Problems in Incomplete Dominance and Codominance

Name \_\_\_\_\_

In the four-o'clock plant, there are two alleles -- red and white. In heterozygous individuals, the phenotype is pink.

1. Show a cross between red and white flowered plants. Give the expected genotypic and phenotypic outcomes.

2. Show a cross between two members of the  $F_1$ . Give the expected genotypic and phenotypic outcomes.

In one gene in cattle, there are two alleles which control the trait of coat color -- red and white. These alleles are codominant and in heterozygous animals, the phenotype is called "roan" -- roan individuals have both red and white hairs.

3. Show a cross between a red bull and a white cow. Give the expected genotypic and phenotypic outcomes.

4. Show a cross between two members of the  $F_1$ . Give the e.g.o. and e.p.o.

In humans there are protein markers on the outside of our blood cells which are controlled by a gene that has three alleles.  $I^A$  produces the A type protein,  $I^B$  produces the B protein, while  $i$  does not produce any protein.

1. Show a cross between a person with the genotype  $I^A i$  and  $I^A I^B$ . Give the e.g.o. and the e.p.o. of this cross.

2. What is the probability that a person with O blood and a person with AB blood will have an offspring with:

- A Blood
- B Blood
- AB Blood
- O Blood