

Honors Biology Incomplete/ Co-Dominance Worksheet 2

1. The lubber grasshopper is a very large grasshopper, and is black with red and yellow stripes. Assume that red stripes are expressed from the homozygous RR genotype, yellow stripes from the homozygous YY genotype, and both from the heterozygous genotype RY. What will be the phenotypic ratio of the F₁ generation resulting from a cross of two grasshoppers, both with red and yellow stripes? What type of inheritance is this?
2. Suppose you have two rose plants, both with pink flowers. You cross the two plants and are surprised to find that, while most of the offspring are pink, some are red and some are white. You decide that you like the red flowers and would like to make more. What cross would you perform to produce the most red flowered plants? What type of inheritance is this?
3. Cattle have three colors. Red coat color, white coat in short horn cattle; with the heterozygous condition producing the roan condition. A farmer has a roan bull and a red herd of cows. How can he produce a pure breeding white herd, using only his present herd. Explain your answer.
4. In four O'clock flowers, red flowers (R) show incomplete dominance to white flower (R'). The heterozygous condition produces pink flowers. Give the expected genotypic and phenotypic ratios for the offspring of a cross between two pink flowering plants.