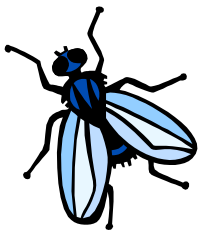
Practice Sex-linked Problems



1. In *Drosophila*, the gene for red eyes, R is dominate for the gene for white eyes, r. This is sex-linked. Determine the possible genotype and phenotype ratios expected from a cross between, (a) heterozygous female and red-eyed male, (b) a heterozygous female and a white-eyed male, (c) a homozygous dominate female and a red-eyed male, and (d) a homozygous dominate female with a white-eyed male.

   (a) Genotype

   Phenotype

   (b) genotype

   phenotype

   (c) Genotype

   Phenotype

   (d) Genotype

   Phenotype

2. In humans the gene from normal blood clotting, **H**, is dominate to the gene for hemophilia, **h**. This is a sex-linked trait found on the X chromosome. A woman with normal blood clotting has four children. They are a normal son, a hemophiliac son, and two normal daughters. The father has normal blood clotting. What is the probable genotype for each member of the family?