

### Using Hardy Weinberg equations

1. In a survey of moths collected from a natural population, a researcher found 51 dark specimens and 49 light specimens. The dark moths carry a dominant allele, and the light moths are homozygous for a recessive allele. If the population is in Hardy–Weinberg equilibrium, what is the estimated frequencies of the following?
  - I. the recessive allele
  - II. the dominant allele
  - III. the homozygous condition
  - IV. the heterozygous genotype
  - V. In a population of 200, how many moths are expected to be heterozygotes?
  
2. A very large population of randomly-mating laboratory mice contains 15% white mice. White coloring is caused by the double recessive genotype, "aa". Calculate allelic and genotypic frequencies for this population.

F(aa)

f(a)

f(A)

f(AA)

f(Aa)