

Hardy Weinberg Practice Problem Sheet 1
You must show all work! Circle all answers!

1) In *Drosophila*, the allele for normal length wings is dominant over the allele for vestigial wings. In a population of 1,000 individuals, 160 show the recessive phenotype. How many individuals would you expect to be homozygous dominant and heterozygous for this trait?

2) The allele for hitchhiker's thumb is dominant over the allele for straight thumb. In a population of 500 individuals, 9% of the individuals show the recessive phenotype. How many individuals would you expect to find of each of the three possible genotypes?

3) The allele for tasting PTH is dominant over the non-tasting allele. In a population of 1,000 individuals, 910 show the **dominant** phenotype. How many individuals would you expect of each of the possible three genotypes for this trait?

4) In the United States, about 25% of the population cannot roll their tongues. The allele for tongue rolling is dominant over not rolling. In a school of 2,000 kids, how many students would you expect for each of the three possible genotypes?

5) The allele for the hair pattern called "widow's peak" is dominant over the allele for no widow's peak. In a population of 1,000 individuals, 360 have no widow's peak. How many individuals would you expect to be heterozygous for widow's peak?

6) In a certain South American country, 1% of the newborn babies have sickle cell anemia, which is a recessive trait. What is the **frequency of each allele** in the population?