



FIGURE 1.34. The Hardy–Weinberg formula gives proportions of the diploid genotypes formed by random union of haploid gametes (A) or by random mating between diploids (B). (A) Areas of the boxes are proportional to the frequencies of the diploid genotypes that are formed by the random union of haploid gametes; distances along the sides represent frequencies of alleles q and p . (B) Frequencies of diploid genotypes are indicated along the sides, and areas of the nine boxes (bounded by *solid lines*) indicate the frequencies of the nine mating combinations. Adding up the areas occupied by the genotypes shows that the genotype proportions are still given by the Hardy–Weinberg formula (compare *colored squares* with those in A).