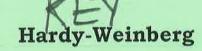
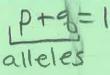
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1. In the population of bats, long wings are dominant to short wings. If 20% of the population has short wings, then what is the frequency of the recessive allele?

2. In guinea pigs, black hair is dominant over white hair. If 15% of the population has white hair, then what is the frequency of the dominant allele?

hair, then what is the frequency of the dominant allele?

$$\sqrt{.15} = \frac{1}{15} = \frac{1}{15}$$

What is the allele frequency of the recessive allele if 40% of the population shows the

3. What is the allele frequency of the recessive allele if 40% of the population shows the dominant allele?

4. 372 turtles express the dominant phenotype in a population of 7,329. What is the frequency of the dominant trait in the population?

5. If the frequency of the dominant allele is 0.5 in a population of sea squirts, then what is the frequency of the homozygous dominant genotype?

$$P = dom = 0.5$$
 $P^2 = homoz = (5)^2 = .25$

Getting Harder...

6. If 32% of the population shows the recessive phenotype, then how many individuals in a population of 550 show the heterozygous genotype?

7. In fruit flies the allele for normal size wings is dominant to the allele for vestigial wings. In a population of 1000 individuals, 360 show the recessive phenotype. Calculate the number of individuals you would expect to be homozygous dominant AND the number of individuals that would be heterozygous for this trait.

$$\frac{360}{1000} = \frac{\text{rec}}{\text{ph}} = \sqrt{92} = \sqrt{.36}$$
 $90 = .6$
 $90 = .4$

$$2pq_{0} = 2(.4)(.6) = .48$$
 $\times 1000 =$

heterozyg = $480 = 2pq_{0}$
 $p^{2} = (.4)^{2} = .16$
 $\times 1000 =$

homoz, dom = $160 = p^{2}$

