

- 1.) In pea plants, green (G) seed color is dominant to yellow (g). If a plant that is homozygous dominant for seed color is crossed with a plant that has yellow seeds, what percent of the offspring will be green?

- 2.) In cats, short hair is dominant to long hair. What are the genotypes of two cats that produce 103 short haired and 95 long haired offspring when mated? Use a Punnett square to prove your results.

- 3.) In carnations, color is controlled by incomplete dominance. The alleles for color are red (R) and blue (B), when an individual inherits both alleles color will be expressed as purple. What percent of the offspring will be blue if a purple flower is crossed with a blue flower?

- 4.) In chickens, the allele for white feathers (W) is codominant to the allele for black feathers (B), if a chicken has both alleles it will appear as a black and white speckled chicken. If a black chicken mates with a speckled chicken what percent of the offspring will be speckled?

- 5.) A man with homozygous type A blood has a child with a woman who has heterozygous type B blood. The child is born with type O blood. Is this man the father of the child? Prove your answer using a Punnett square.

- 6.) Color blindness is a X-linked disorder. If a man who is **not** colorblind has a child with a woman who is a carrier for the trait. What is the probability that a son is colorblind?

- 7.) In humans, hemophilia is a sex- linked trait (X-linked). Also, having black hair (B) is dominant to blonde hair (b). If a blonde-haired male who has hemophilia has a baby with a heterozygous black- haired woman who does not have the allele for hemophilia, what percentage of the offspring will have hemophilia and blonde hair?

- 8.) The table below shows the genotypes and phenotypes for eye color in humans. If a woman with green eyes has a child with a man who has dark blue eyes, what are the chances of the child having the same color eyes as the mother (green)?

Genotype	Eye Colour
AA BB	black-brown
AA Bb	dark brown
AA bb	brown
Aa BB	brown-green flecked
Aa Bb	light brown
Aa bb	grey-blue
aa BB	green
aa Bb	dark blue
aa bb	light blue