

6. Tongue rolling is a dominant trait. Can a husband and wife that are not able to roll their tongues produce a child that is able to roll his or her tongue?

7. A couple is about to have a baby, the father is heterozygous for eye color and the mother is homozygous recessive for eye color. What is the probability the baby will have brown eyes? (B = brown b = blue)

8. In peas, tall (T) is dominant over short (t), yellow (Y) is dominant over green (y), and round (R) is dominant over wrinkled (r). From a cross of two triple heterozygotes, what is the chance of getting a plant that is:

a. Tall, yellow, round?

b. Short, green, round?

9. Two plants are crosses with the following genotypes.

	Trait 1	Trait 2	Trait 3	Trait 4	Trait 5	Trait 6
Organism 1	Aa	bb	CC	Dd	ee	FF
Organism 2	aa	Bb	cc	Dd	Ee	Ff

What is the probability of their offspring having the following genotypes?

a. Aa bb cc dd ee ff

b. Aa Bb Cc Dd Ee Ff

c. aa bb Cc DD ee Ff

10. Consider the following crosses of pea plants and determine the genotypes of the parents in each cross. Yellow and green refer to seed color, and tall and short refer to plant height.

	Cross		Offspring			
			YT	Yt	yT	yt
A	Yellow, Tall	Yellow, Tall	89	31	33	10

B	Yellow, Short	Yellow, Short	0	42	0	15
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C	Green, Tall	Yellow, Short	21	20	24	22
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Incomplete Dominance Problems:

11. In purple people eaters, 2 horns are dominant (P1) and no horns is recessive. If a purple people eater is a heterozygote then it has 1 horn. Two heterozygote purple people eaters are about to have a baby. What are the genotypes and phenotypes that their baby could possess?

12. The flowers of snapdragons are dominant in red (R) and recessive in white (r). A pure red snapdragon is crossed with a pure white snapdragon. What are the genotypes and phenotypes of this cross?
13. A homozygous recessive female is bred to a heterozygous male. Color is incomplete for dominance in these gerbils. D = dark brown d = white What would the results of the cross be?

Codominance Problems:

14. Taylee is homozygous dominant for type A blood. Her father was type A blood, but heterozygous. Her mother is also type A heterozygous. What are the probabilities for Taylee's older brothers blood type.
15. A mother with type A blood is about to have another baby. Her first child is type O blood. Her husband is type B blood. What is the probability that their second child will have a child with type AB blood?

Dihybrid Crosses:

16. In watermelons, the alleles for green color (G) and short shape (S) are dominant. Striped color and long shaped are recessive. A plant that is long and striped is crossed with a plant that is heterozygous for both traits. What are the possible genotypes and phenotypes for the offspring?

17. A father with brown hair (Hh) and brown eyes (Bb) marries a woman with brown hair (Hh) and blue eyes (bb). What is the chance they will have a blonde haired, blue-eyed baby?