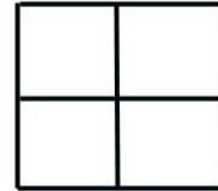


Punnett squares can also be used to predict the inheritance patterns of sex-linked traits.

1.) A woman is a carrier for red-green colour vision deficiency and a man has red-green colour vision deficiency.

A) What are their genotypes? _____

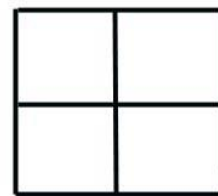
B) What are the possible genotypes and phenotypes of their children?



2.) Hemophilia is a recessive X-linked trait that affects the body's ability to produce blood clots. If a woman who is a carrier for hemophilia has children with a man without hemophilia.

A) what are the possible genotypes of their children?

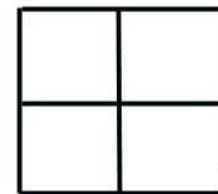
B) What is the chance that they will have a child with hemophilia?



3.) Nystagmus is a condition in which involuntary eye movement leads to poor vision. This condition is caused by a recessive X-linked allele. Suppose that a man and woman, both with normal vision, have two children. The boy is affected with nystagmus and the girl is unaffected.

A) Determine the genotypes of the parents.

B) Is it possible to determine the genotypes of the children? Explain.



4.) A true-breeding tan-bodied female fruit fly is crossed with a yellow-bodied male. All of the offspring in F1 have tan bodies. In the F2 generation, all the females have tan bodies, 50% of the males have tan bodies, and 50% of the males have yellow bodies.



A) Determine the genotypes of the flies described in the F2 generation.

B) What is the probability of producing tan offspring from a yellow female and a tan male?

