1. A heterozygous yellow pea plant is crossed with a homozygous green pea plant. Yellow is the dominant trait for pea plants.

   a) What is the genotype of the yellow pea plant?
   b) What is the genotype of the green pea plant?
   c) Draw a Punnett square for this cross
   d) What percentage of the offspring will be yellow?
   e) What percentage of the offspring will be green?

2. Let’s say having blue eyes is dominant over having green eyes, and it is an autosomal trait. A male who is homozygous for blue eyes marries a female who is heterozygous for blue eyes.

   a) What is the genotype for the male?
   b) How about the female?
   c) Draw a Punnett square of the cross between the two people.
   d) What is the probability that they will produce an offspring that has blue eyes?

3. Look at question 2. Instead of the female being heterozygous for blue eyes, she is homozygous for green eyes. What would the Punnett square look like?

4. Red-green color blindness is due to a sex-linked recessive allele on the X chromosome. A color blind dad mates with a normal vision female carrier.

   a) What is the genotype of the wife?
   b) What is the genotype of the husband?
   c) Draw a Punnett square of the cross between the two people.
   d) What is the probability that their sons would be normal?

5. Huntington’s disease is a dominant autosomal disease. What is the probability that a couple will have a child that will develop Huntington’s disease if the husband is homozygous for Huntington’s and the wife is homozygous recessive?

   a) Genotype of wife?
   b) Genotype of husband?
   c) Draw a Punnett square of the cross between the two people.
   d) What is the probability that a couple will have a child that will develop Huntington’s?