Outcome Practice: Pedigree Charts

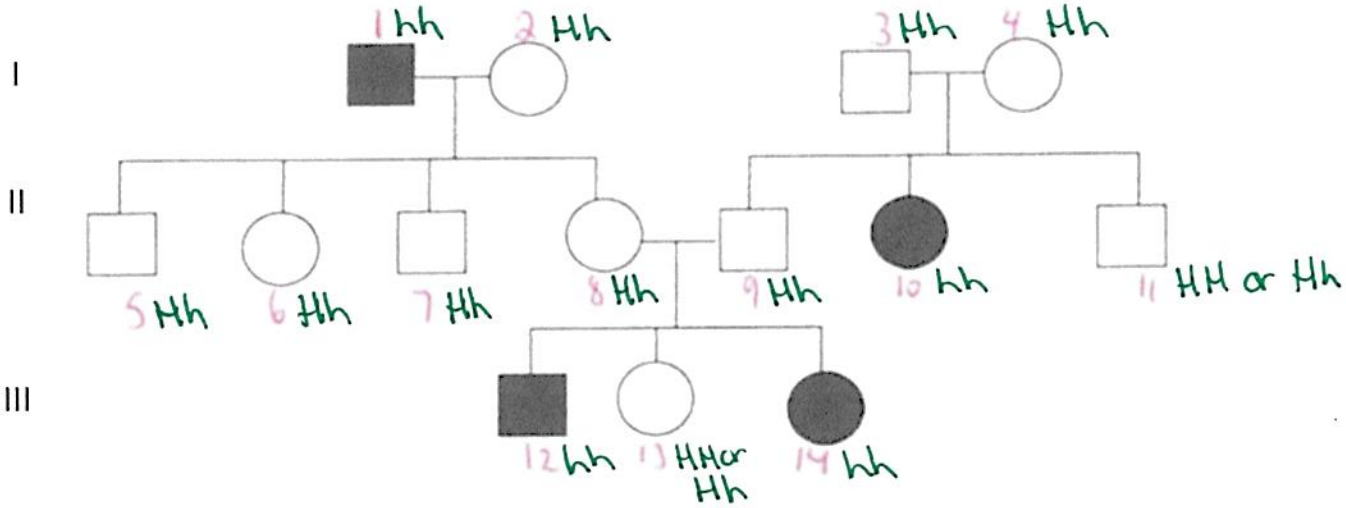
Name: Key **Biology 122**

Directions: Answer the questions below using your notes and knowledge of genetics. The key below will assist you in understanding pedigree chart information.

Pedigree Chart Key:

Normal female	Female with phenotype of interest	Female heterozygous for recessive allele
Normal male	Male with phenotype of interest	Male heterozygous for recessive allele

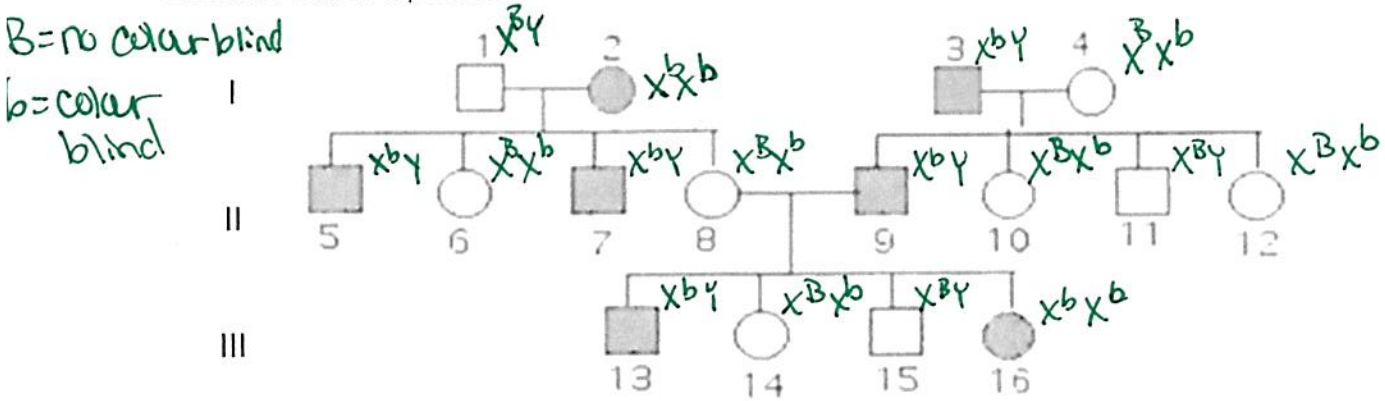
1. The following pedigree chart looks at horses and the trait that deals with fast or slow-twitch muscle response. Slow-twitch muscle is shaded below. H= dominant (fast-twitch) h= slow-twitch



   a) What is the most likely mode of inheritance for this pedigree chart (autosomal dominant, autosomal recessive or X-linked)? Why do you think this? Autosomal recessive bic parents do not it.
   b) Explain the family relationship that 12 has with 2. 2 is 12's grandmother.
   c) State the genotype for each horse in the pedigree chart. If you are uncertain of its genotype, state all that are applicable. * See chart
   d) Can either individual 8 or 9 be homozygous? Why? No bic they have to hold a recessive allele to give their offspring the trait but have a dominant allele to hav them

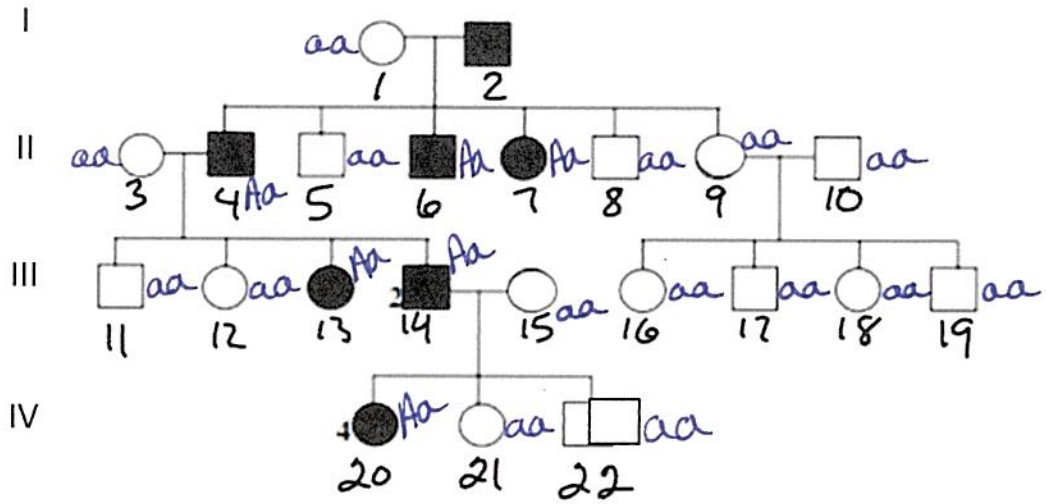
2. Examine the following pedigree chart for colour blindness in humans, shaded areas represent a colour blinded person.

B= no colour blind
b= colour blind



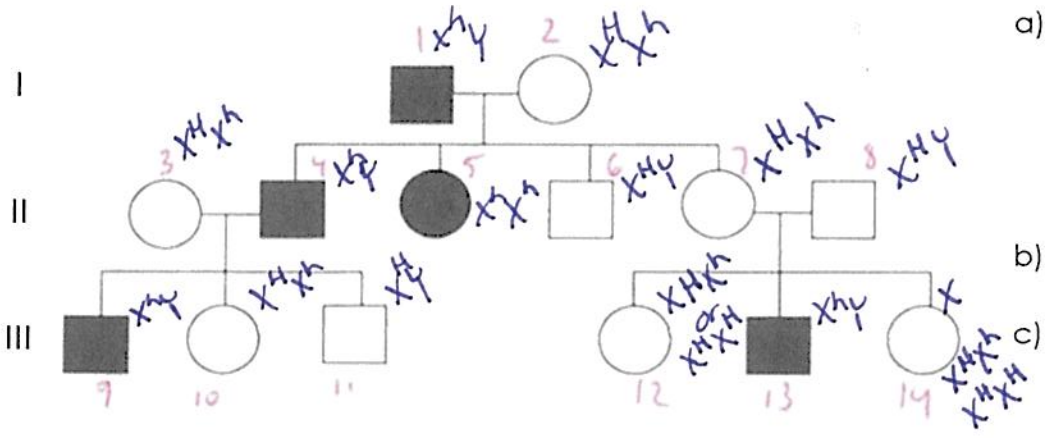
a) What is the most likely mode of inheritance for this pedigree chart (autosomal dominant, autosomal recessive or X-linked)? Why do you think this? X-linked, predominantly men
b) What is the relationship between 10 and 11? Brother & sister
e) Indicate the genotype for each of the individuals found on the pedigree chart. If you are uncertain of its genotype, state all that are applicable. *see pedigree chart.

3. As a doctor you are faced with an unknown disease showing in a family. The below pedigree chart maps out the occurrence of this disease with the affected individuals being shaded in.



a) What is the most likely mode of inheritance for this pedigree chart (autosomal dominant, autosomal recessive or X-linked)? Why do you think this? Autosomal dominant b/c = #s & 6s and parents of b
b) What is the relationship between 1 and 4? mother & son
c) Indicate the genotype for each of the individuals found on the pedigree chart. If you are uncertain of its genotype, state all that are applicable. See chart above.

4. The following pedigree chart shows a family that has hemophilia run through it. The individuals shaded have hemophilia.



a) What is the most likely mode of inheritance for this pedigree chart (autosomal dominant, autosomal recessive or X-linked)? Why do you think this? X-linked rece b/c
b) What is the relationship between 7 and 8? "married" mos
c) Indicate the genotype for each of the individuals found on the pedigree chart. If you are uncertain of its genotype, state all that are applicable. *See chart