

NAME \_\_\_\_\_

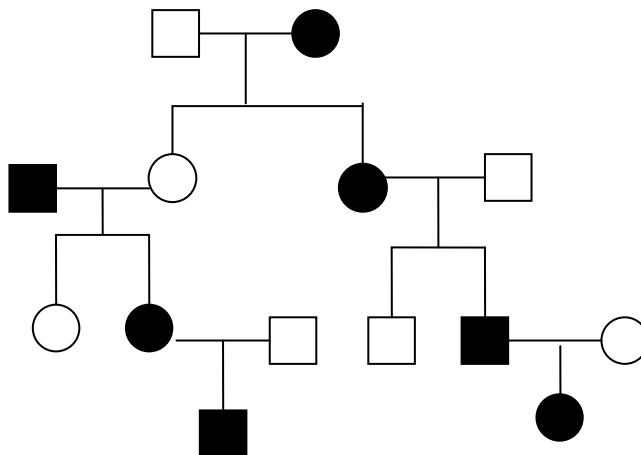
### PEDIGREE CHART

1. What is a pedigree chart and how can it be useful?
2. What symbols are used to represent gender?
3. How are individuals shown on a pedigree chart for having the trait which is being studied?
4. How could you represent a carrier on a pedigree chart?

***Use the pedigree shown below to answer questions 5 - 8***

5. How many generations are shown in the pedigree below?
6. Is the trait being studied autosomal or X-linked?  
How do you know?
7. Is the trait being studied dominant or recessive?  
How do you know?

8. Write the genotype underneath each individual (BB, Bb, bb or unknown).



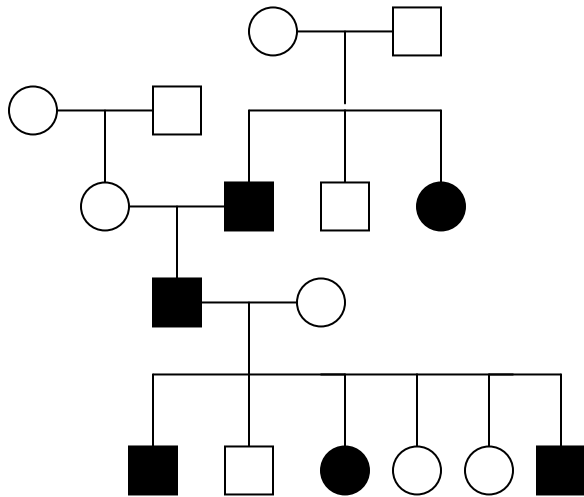
Use the pedigree shown below to answer questions 9 - 10

9. Is the trait being studied autosomal or X-linked?

How do you know?

10. Is the trait being studied dominant or recessive?

How do you know?



### Tracking color blindness

We are charting red/green colorblindness (X-linked) in several generations of the Spuckler family. Use the following descriptions to create a pedigree chart for the Spuckler clan:

(Only a sample could be used in this exercise – Cletus Spuckler, a.k.a. Cletus Del Roy, a.k.a. Cletus The Slack-Jawed Yokel has fathered 27 beautiful children with his wife and relative Brandine Spuckler)

- ☞ Cletus and Brandine Spuckler have normal vision;
- ☞ Ma Spuckler (Cletus' Ma) has normal vision;
- ☞ Cletus' Aunt Chloe (Brandine's Mom) has normal vision;
- ☞ Ma and Aunt Chloe's Dad was colorblind;
- ☞ Brandine has 2 brothers and a sister;
- ☞ Cletus' cousin Merle (Brandine's Brother) is colorblind;
- ☞ Cletus' sons Cody, Dylan, Dermott and Baby #27 are colorblind;
- ☞ His daughters Tiffany, Heather and Lauren have normal vision;
- ☞ His sons Phil and Hunter have normal vision.
- ☞ There are two paternal figures in the clan whose phenotypes are unknown at this juncture.

- A) Start by analyzing the all of the information:
  - i. How many generations?
  - ii. Who's related, who is married?
- B) Start with a small rough sketch –
  - i. Plot Cletus and Brandine and try to surround them.
- C) After you have a good idea of what the pedigree will look like – begin charting it below
- D) After you have the Spuckler Clan pedigree framework –
  - i. Darken the symbols representing the individuals in the Spuckler clan that express colorblindness.
- E) Finally, determine who the carrier are and indicate them on the pedigree chart
  - i. Make sure you indicate them properly