

Name: _____

Date: _____

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Sex Linked Inheritance

- 1) What are the sex chromosomes of a female?
- 2) What are the sex chromosomes of a male?
- 3) A couple has had three girls what is the chance the fourth will be a boy?
- 4) Can boys inherit colour blindness from their fathers? Why?
- 5) Who determines the sex of the baby? Why?
- 6) What is sex linked inheritance?
- 7) A non colourblind male marries a carrier female (heterozygous). What is the chance their child will be colourblind?

For questions 8-11 use the following statement; in fruit flies eye colour is a sex linked trait where red (R) is dominant to white (r).

- 8) What are the sexes and eye colours of flies with the following genotypes?
 - a) $X^R X^r$
 - b) $X^R Y$
 - c) $X^R X^R$
 - d) $X^r Y$

9) What are the genotypes of:

- a) white eyed male
- b) red eyed female (heterozygous)
- c) white eyed female
- d) red eyed male

10) Show the Punnett square for crossing a white eyed female and a red eyed male. What are the resulting phenotypes (gender and eye colour)?

11) Show the Punnett square for crossing a red eyed female (heterozygous) and a red eyed male. What are the resulting phenotypes (gender and eye colour)?

12) In humans hemophilia is a sex linked trait (h). Females can be normal, carriers or have the disease. Males will either have the disease or not.

a) Is this disease dominant or recessive?

b) What is genotype for a male WITH the disease _____ What is the genotype of a female who is a carrier _____.

c) Show a Punnett square for a male who has the disease and a female who is a carrier.

d) What is the probability that their children will have the disease?