

Name _____

Date _____

SEX-LINKED TRAITS – Practice Problems

1. If a human male and female produce children, what proportion of their offspring should be males? What proportion should be females? Explain using a Punnett square.

Male _____

Female _____

2. What conditions are necessary in order for colorblindness to appear in women?
3. In humans, normal vision (X^C) is dominant to colorblindness (X^c) and is sex-linked. A normal-visioned man, whose father was colorblind, marries a colorblind woman. What are the chances that a son will be colorblind. A daughter? Explain.

4. Hemophilia is due to a sex-linked recessive gene (X^h) and the normal condition to the gene (X^H). A hemophiliac man marries a woman who is not. Their first son has hemophilia. What are the chances that their daughter, if they had one, will be hemophilic?

5. In humans, aniridia (a type of blindness) is due to a dominant gene. Optic atrophy (another type of blindness) is due to a recessive sex-linked gene. A man blind from optic atrophy marries a woman blind from aniridia. Would any of their children be expected to be blind? Which type of blindness would they have?
