Part I

Pedigree Practice Worksheet

1. Do a punnett square for the cross shown below between a male and female, both with Hemophilia, an X-linked recessive disease. Females are represented by a circle and males by a square. Darkened shapes mean the individual has the disease.

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2. Write the genotypes of the parents next to their shapes. Then do a punnett square for the **autosomal recessive** disease in the cross shown below between a male and female.

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3. The father shown below has Hemophilia, an X-linked recessive disorder. If this couple had a son, could the son have the disease? What genotype(s) would be possible for that son?

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□ □
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4. The couple shown by the pedigree shown below, have 2 children, 1 girl with the disease and 1 boy without the disease as shown. What is the mode of inheritance? (is the disease autosomal recessive, autosomal dominant, or X-linked recessive?) Explain why you think this. Fill in the genotypes to help you answer this.

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□ □
5. For the pedigree shown to the right:
   Is it possible for the trait to be autosomal recessive? Explain why?
   
   Is it possible for the trait to be autosomal dominant? Explain why?
   
   Is it possible for the trait to be X-linked recessive?

6. a) Which individual (what number) in the pedigree below rules out X-linked dominant?
   
   b) Which individual in the pedigree below rules out autosomal recessive? Briefly explain why.
   
   c) Which individual in the pedigree rules out X-linked recessive? Briefly explain why.

Part II.

Given the 3 pedigrees below, identify the type of inheritance shown in each and give an explanation that includes a punnett square to support your answer. You should fill in possible genotypes next to various individuals to help get the correct answer.