

PS: 1-Trait Diseases

1) XP disorder is caused by a recessive mutation. What is the chance that a couple will have a child affected with XP if MOM is normal and DAD is a heterozygous carrier? _____

Gene Notation	_____ = _____
Symbols Used:	_____ = _____
Parent	MOM = _____
Genotypes:	DAD = _____

Dad's Sperm varieties

Mom's Egg Varieties

2) Huntington's Disease (HD) is caused by a Dominant mutation. What is the chance that a couple will have a normal, disease free child if both MOM and DAD are heterozygous with HD? _____

Gene Notation	_____ = _____
Symbols Used:	_____ = _____
Parent	MOM = _____
Genotypes:	DAD = _____

Dad's Sperm varieties

Mom's Egg Varieties

3) CF disorder is caused by a recessive mutation. What is the chance that a couple will have a normal, disease free child if MOM is a heterozygous carrier and DAD has CF? _____

Gene Notation	_____ = _____
Symbols Used:	_____ = _____
Parent	MOM = _____
Genotypes:	DAD = _____

Dad's Sperm varieties

Mom's Egg Varieties

4) Sickle-Cell Anemia is caused by a recessive mutation. What is the chance that a couple will have a heterozygous carrier child unaffected with Sickle-Cell Anemia if MOM is heterozygous and DAD has Sickle-Cell Anemia? _____

Gene Notation	_____ = _____
Symbols Used:	_____ = _____
Parent	MOM = _____
Genotypes:	DAD = _____

Dad's Sperm varieties

Mom's Egg Varieties

5) Use the blank Punnett square below to figure out what parent genotypes (MOM & DAD) would result in 50% of the children heterozygous carriers for CF and 50% of the children with CF. HINT: remember that CF is caused by a recessive mutation.

DAD's genotype: _____

MOM's genotype: _____

6) What would the phenotype be for each parent above in #5?

DAD's phenotype: _____

MOM's phenotype: _____

7) Each spring many Missourians are known to rise before the sun to hike into the woods in the dark all dressed from head to foot in camouflaged clothing. Lets assume this mysterious malady commonly known as Turkey Fever is a genetically inherited disorder. If one parent has Turkey Fever and the other does not, is the mutation that causes Turkey Fever Dominant or recessive if 50% of the children inherit Turkey Fever and 50% do not?

Turkey Fever is (circle): Dominant or recessive

Explain:
