**Genetics Study Guide**

1. A female that is planning to become pregnant is concerned about her exposure to environmental mutagens which may have caused DNA mutations. In order for these mutations to become heritable, what types of cells must they affect? Why?
2. List 5 examples of inherited traits and 5 examples of acquired traits
3. How many chromosomes do regular (somatic) cells contain? How many chromosomes are found in sex cells (sperm and egg/ovum)? Why do sex cells have this number of chromosomes?
4. In fruit flies, straight wing is dominant over curly wing. What are the possible offspring of a homozygous or purebred straight winged fly and a curly winged fly? (3 points)
5. Blood types in humans are an example of traits controlled by \_\_\_\_\_\_\_\_
	1. Pedigree
	2. Multiple alleles
	3. Offspring
	4. Only homozygous parents
6. \_\_\_\_\_\_\_\_\_\_\_\_\_ is one type of genetic engineering, where a normal allele is placed into a virus.
	1. A color blind test
	2. Down’s Syndrome
	3. Gene therapy
	4. Polygenic inheritance

Assuming a recessive inheritance pattern, if individual “E” married an individual who is homozygous recessive, what is the probability that their first child will be homozygous recessive?

1. 1/8
2. ¼
3. ½
4. 1



1. Albinism (lack of melanin that gives the skin color) in humans is caused by a recessive allele. A normal couple has 4 children; 1 of the children is albino.

What are the only possible genotypes of the **parents**? \_\_\_\_\_\_\_\_\_\_\_ X \_\_\_\_\_\_\_\_\_\_\_\_