DEFINE: true breeding, synapsis, homologs, tetrads, crossing over, diploid, pleiotropy, epistasis, multiple alleles, polygenic inheritance
STATE that genes traveling on the same chromosomes do not obey the law of independent assortment
STATE an example of each of the following: pleiotropy, epistasis, multiple alleles, incomplete dominance, co-dominance and polygenic inheritance
STATE that the environment can effect gene expression
OUTLINE the stages of meiosis
OUTLINE why or when doctors see an increase in Downs Syndrome amongst their patients
OUTLINE the cellular mechanism (reason) for Downs Syndrome
OUTLINE multifactorial diseases
CALCULATE the probability of an event occurring
IDENTIFY an example of complete dominance inheritance
IDENTIFY the stages of meiosis where the laws of segregation and independent assortment occur
IDENTIFY the type of chromosomal mutation from a brief written description
IDENTIFY the hypothesis of inheritance that Mendel concluded to be true
IDENTIFY an example
COMPARE monohybrid and dihybrid crosses
CALCULATE the number of unique gametes possible when given a genotype (> than 3 alleles)
COMPARE the blending hypothesis and the particulate hypothesis
COMPARE monohybrid and dihybrid crosses
COMPARE monohybrid crosses with complete dominance, incomplete dominance and co-dominance
DISCUSS why sickle cell trait is oddly more prevalent than expected in certain parts of Africa
EXPLAIN the law of independent assortment
EXPLAIN the law of segregation
EXPLAIN sickle cell trait
EXPLAIN the significance of Thomas Hunt Morgans results when mating red eyed and white eyed flies
PREDICT the number of different gametes when given the number of different alleles
PREDICT the % or probability of offspring from a given single factor cross (all 3 different types of dominance are fair game)
PREDICT the % or probability of offspring from a given single factor cross (sex linked)
PREDICT the genotype(s) of parent(s) when given the offspring(s) genotype(s) (sex linked)
DETERMINE possible gametes from a given parental genotype
DETERMINE a person's blood group based upon given genetic information (parent(s), sibling(s) genotype for example)

*There will be a separate portion of the test that assesses genetic problems to be solved. The expectations above are applicable for the multiple choice portion of the test. I will provide additional information to you regarding the types of genetic problems you will be asked to solve.