Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions:

-Use the Scantron Form to answer the multiple-choice questions.

-Below: Answer 2 of the 3 short long questions. Also answer 1 of the 2 long response questions.

**SHORT ANSWER QUESTIONS: (choose 2 of the 3 options) 10 pts each.**

**23.**

a) Explain one potential reason why humans have a different number of chromosomes than our great ape cousins such as chimpanzees, gorillas, and orangutans? b) Identify how many chromosomes a gorilla has and how many a normal human has. c) Which chromosome was affected in humans? d) What possible effects did this change have on the evolution of humans?

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**24.**

a) The allele for the hair pattern called “widow’s peak” is dominant over the allele for no “widow’s peak”. In a population of 1,000 individuals, 510 show the dominant phenotype. How many individuals would you expect of each of the possible three genotypes for this trait?

Remember: p2 +2pq+q2=1 and p+q=1

b) What does the Hardy Weinberg principle demonstrate? Is it possible in natural environments? If not, why would we use it?

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**25.**

What is speciation? What are 3 types of isolation which can cause speciation? Provide an example of each type.

**LONG RESPONSE QUESTIONS: Choose 1 of the 2 options (10 pts).**

**26.**

Describe 4 evidences of evolution and how they demonstrate the evolution of species. Provide an example of that evolutionary evidence which demonstrates it.

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**27.**

Briefly discuss 3 of the 5 Agents of Change for evolution: For each agent, describe how it demonstrates evolution and provide an example.