**ANSWER ON YOUR OWN PAPER**

**\*\*\*\*Study your homework assignments!! The assignment covering translation, replication, and transcription is an EXCELLENT study tool!**

**I DO NOT MAKE THESE TO BENEFIT MYSELF. THE BEST WAY TO DO WELL ON THE EXAM IS TO COMPLETE THIS. (HINT: I CREATE THE QUESTIONS ON THE STUDY GUIDE WHILE LOOKING AT THE EXAM!!)**

**1. What is the function of DNA in an organism?**

**2. What are the three parts of a nucleotide? Draw a nucleotide.**

**3. What is the structure of DNA?**

**4. Name all the differences between DNA and RNA.**

**5. Write the complementary strand of DNA for the following sequence of DNA.**

**ATTGCATGACCA**

**TACGATAACGGA**

**-What process did you just do?**

**6. What organelle does replication occur in?**

**7. What stage of the cell cycle does DNA replication occur in? (Remember: Italian Paparazzi Making All That Cash!)**

**8. What is the purpose of DNA replication?**

**9. Define semi-conservative.**

**10. In transcription, DNA is copied into what molecule?**

**11. What is the role of RNA in transcription and translation?**

**12. Define codon. Define anti-codon.**

**13. Define tRNA.**

**14. In what cellular organelle is mRNA translated and the amino acids join together to form proteins?**

**15. Transcribe the DNA into mRNA and then use the amino acid chart determine the amino acids.**

**DNA: TACGGTCCC**

**mRNA:**

**Amino Acids:**

**DNA: AAGCATAATCG**

**mRNA:**

**Amino Acids:**

**16. Define and give TWO examples of a point mutation.**

**17. Define and give TWO examples of a frameshift mutation.**

**18. What is the difference between body cell and sex cell mutations? Which is inheritable?**

**19. What is DNA fingerprinting used for?**

**20. Describe the ethical oppositions to stem cell research.**

**21. List all four genetic technologies we discussed and their uses.**

**22. List the pros and cons of transgenic organisms AND stem cell research.**

