Name: _____ Date: _____ Period: _____

DNA Standards Based Worksheet – Ch. 12. Pgs. 286-308.

Answer the following standards-based questions in the space provided. Attach additional paper if necessary.

1. What are the three parts of a nucleotide? Draw an example of one. (Notes and Pg. 294)

2. Complete the table representing the DNA bases. (Notes and Pg. 294)

4 DNA Bases	With which base does it pair?

3. What is produced from replication? When does it happen during the cell cycle? (Notes and Pg. 297)

4. Compare at least three differences between RNA and DNA. (Notes and Pg. 300 and 291)

RNA	DNA

5. Complete the chart for the three types of RNA: (Notes and Pg. 300)

RNA Type			
Full Name			
Function?			

6. Complete the chart for the two stages of protein synthesis: (Pgs. 301 and 303 and Notes)

Stage Name?	Location?	RNA types involved?	What happens?

7. Given the following base sequence for DNA, identify the complementary base that results on the other side for mRNA, and tRNA during protein synthesis. (Pgs. 295, 302, and 304 and Notes)

DNA Strand	GCA	TTA	GCA	TCG	ATA	ACG
mRNA codon						
tRNA anticodon						

8. Given the following mRNA codons, identify the amino acid produced from each. Use your genetic code to complete this problem. AUGCCCUACCCCGACGGGACAUAG (Pg. 303 and Notes)

mRNA Codons	AUG	CCC	UAC	CCC	GAC	GGG	ACA	UAG
Amino Acids								

9. How do proteins differ from each other? (Notes and Pg. 302)

10. Complete the chart listing the three types of gene (point) mutations. Indicate whether or not each is a frameshift. (Pg. 307 and Notes)

Gene (Point) Mutation Type?	What happens?	Frameshift?

11. Why does each organ in your body perform different functions even though the same DNA is present in each? Draw a diagram of two strands of DNA to assist in explaining your answer. (Notes and Page 311-312)

12. Complete the following questions: Page 317 #1-12.

P. 317 Answer	Reason	P. 317 Answer	Reason
1.		7.	
2.		8.	
3.		9.	
4.		10.	
5.		11.	
6.		12.	