NAME _____

BLOCK _____

BIOLOGY 12: CHAPTER 25/26.1 - REVIEW WORKSHEET
DNA REPLICATION, PROTEIN SYNTHESIS, & RECOMBINANT DNA

A. DEOXYRIBONUCLEIC ACID (DNA)

1. Where are the genes found in a cell? Name the two groups of nitrogenous bases found in chromosomes.

2. List the three subunits of every nucleotide found in nucleic acid. What are the specific pairings of the bases in DNA?

3. The two _____ of DNA twist about one another to form a _____ helix with the two strands held together by _____ bonds between the purines and pyrimidines.

4. How does the structure of unwound DNA compare to that of a ladder?

5. Name the two scientists that first determined the structure of DNA.

6. List the three basic functions that DNA, as a hereditary material, must be able to do.

7. a) What is the function of helicase?

b) What is the function of DNA polymerase?

c) List the steps required in DNA replication?

8. Why is DNA replication said to be *semiconservative*? Which enzyme "proofreads" the replicated DNA?

9. What does the concept, **one gene - one enzyme**, mean?

10. What is the difference between transcription and translation?

11. What is the specific type of RNA that is used to produce the correct order of amino acids in a polypeptide?