DNA/RNA Test Review

1. What does DNA stand for?
2. What is the monomer of nucleic acids?
3. What are the 3 parts of a nucleotide of DNA?
4. Who was the scientist that worked with mice and discovered bacterial transformation?
5. What scientist worked with x-ray crystallography and discovered the structure of DNA?
6. What 2 scientists built the first model of DNA?
7. When does our DNA replicate?
8. Why does our DNA replicate?
9. What enzymes are involved in DNA replication and what is their function?
10. What is the point of DNA? What can we make with it?
11. What is a gene?
12. What happens in transcription?
13. Where does transcription occur?
14. Why does transcription happen?
15. What happens in translation?
16. What type of RNA brings the amino acids to the ribosome?
17. What organelle performs translation?
18. What is the 5-carbon sugar in RNA?
19. What is a codon?
20. What is the start codon?
21. DNA replication produces 2 strands that are half old and half new. What is this called?
22. What molecule carries the anti-codon?
23. What is the function of RNA polymerase?
24. What is the function of helicase?
25. Why type of bonds connect 2 strands of DNA?
26. What type of bonds connect amino acids?
27. Substitution is an example of what type of mutation?
28. Insertion is an example of what type of mutation?
29. Deletion is an example of what type of mutation?
30. What are the 2 main categories of mutations?
31. The process by which DNA is copied into a strand of RNA is called what?
32. The process by which RNA is used to build a string of amino acids is called what?
33. In mRNA, a codon specifies a specific \_\_\_\_\_\_\_\_\_\_\_\_?
34. Define mutation.
35. In a molecule of RNA, which base will pair with adenine?
36. A protein is assembled amino acid-by-amino acid during the process of \_\_\_\_\_\_\_.
37. How many DNA nucleotides are needed to code for a protein that is 150 amino acids long?
38. A single cytosine is switched to a thymine during DNA replication. This change in DNA is what type of mutation?
39. Because it is an enzyme, RNA polymerase is what type of macromolecule?
40. Name the 2 purine bases.
41. Name the 2 pyrimidine bases.
42. What process produces mRNA?
43. Each set of 3 mRNA nitrogen bases is called what?
44. Which type of mutation is often fatal: chromosomal mutation or point mutation?
45. In a strand of DNA, if there are a total of 30 bases, and 5 are adenine bases, how many cytosine bases are there?
46. What are the two types of frameshift mutations?