

Name: _____ Date: _____

Molecular Genetics / Mitosis Review Sheet

A.) The Nucleic Acids:

1. The two types of nucleic acids are _____ and _____.
_____ contains an organism's protein codes, and _____ aids in the process of protein synthesis.
2. DNA stands for _____
and RNA stands for _____
3. _____
4. The building blocks of nucleic acids are _____.
5. These building blocks have _____ parts. Draw and label these parts below:
6. DNA has the shape of a _____. The four nitrogenous bases found in DNA are _____, _____, _____, _____.

7. What are the base-pairing rules in DNA?

8. Explain the difference between a gene and a chromosome.

B.) DNA Replication:

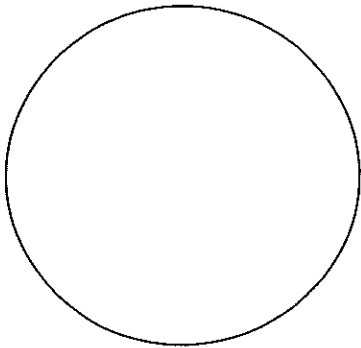
10. Describe DNA replication in three steps:

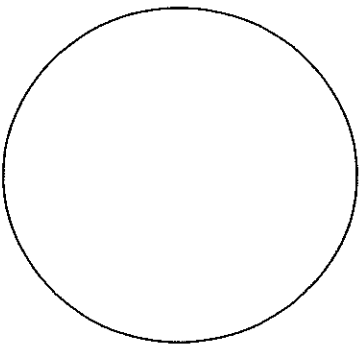
11. In the space below draw an illustration of DNA replication:

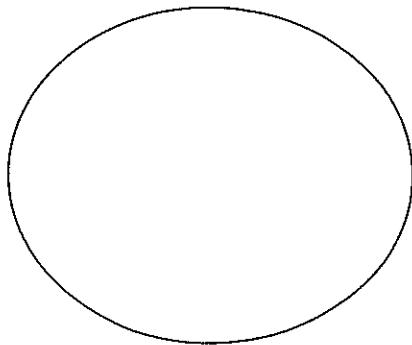
E.) Mitosis:

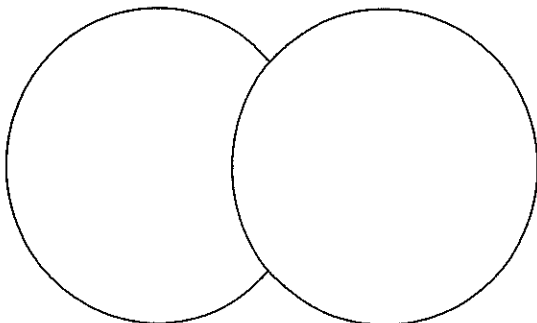
23. The process by which cells divide to produce two identical daughter cells, identical to the original cell is called _____.
24. _____ is the period of cell growth that occurs between cell division. During this time, the DNA exists as uncoiled strands of _____. At some point the DNA _____, or makes a copy of itself. Draw and label an animal cell in this phase.

25. Draw and label the four phases of mitosis in an animal cell. Be sure to label all important parts of the cell and provide a brief description of the key events that occur during each phase.









26. Describe two ways that plant cell mitosis is different from animal cell mitosis.

27. Mitosis always yields the same result. Describe this result, and explain why this type of cell division is valuable to organisms.

28. During cell division, two processes take place; the division of the nucleus known as _____, and the division of the cell membrane known as _____. Explain what would happen if only the first process occurred:

29. Define cancer:

30. Explain why cancer is a "spreading disease"

16. List and explain two differences between **animal** and **plant mitosis**:

17. List six types of asexual reproduction:

1.) _____ 4.) _____
2.) _____ 5.) _____
3.) _____

18. Explain the difference between **binary fission** and **budding**:

19. List the three vegetative parts of a plant:
