**BIOLOGY STUDY GUIDE-ASEXUAL/SEXUAL REPRODUCTION TEST**

1. What limits how big a cell can become?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Define Mitosis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. What are the steps of mitosis in order? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. What event must come before Mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. What type of cells undergoes Mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Distinguish between cleavage furrow and cell plate.

7. When do chromosomes line up in the middle of the cell during Mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. What is the name given to each identical half of a chromosome? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. When do the chromosomes first become visible during Mitosis? \_\_\_\_\_\_\_\_\_\_\_\_

10. Identify the stage of the cell cycle and mitosis.in the following diagrams:



11. What are 3 functions of Mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. What is the goal of Meiosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. What type of cell is produced by Meiosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. What is diploid? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. What is haploid? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. If an organism has a diploid number of 50, what is the haploid number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. What are homologous chromosomes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18. What important event takes place during Prophase I of meiosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19. What is genetic recombination? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

20. Distinguish between anaphase I and anaphase II of meiosis. (think about the chromosomes)

21. Mitosis produces 2 cells that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the parent cell and each other.

22. Meiosis produces \_\_\_\_\_\_\_ cells that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the parent cell and each other.

23. What cell is produced in females by meiosis? \_\_\_\_\_\_\_ In males? \_\_\_\_\_\_

24. Compare and Contrast asexual and sexual reproduction.

25. What does each of the following illustrations represent? (Mitosis or Meiosis) Label the cells as diploid (2n) or haploid (n).

**Diploid versus Haploid:**

If a species has a diploid number of 40, how many chromosomes should be in each of the 4 haploid cells at the end of Meiosis?

I f a species has a diploid number of 40, how many chromosomes should be in each diploid cell at the end of Mitosis?