Name_____

Hour_____

Date_____

Unit 5 (Ch. 9 & 10.1) Cellular Reproduction Review Sheet

1. Which cell size can more efficiently supply nutrients and expel waste products?

2. What happens to the surface area to volume ratio as a cell becomes larger in size?

3. What stage of the cell cycle does a cell spend most of its life in?

4. The typical growth period of a cell occurs during which stage of the cell cycle?

5. Describe why cell division (mitosis and meiosis) is necessary to the survival of all living things.

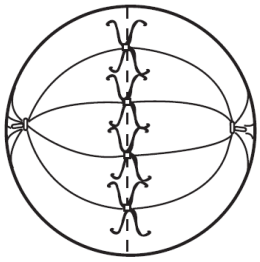
6. DNA replication occurs during which part of the cell cycle?

7. The relaxed (string) form of DNA is called _____ when the cell is in Interphase.

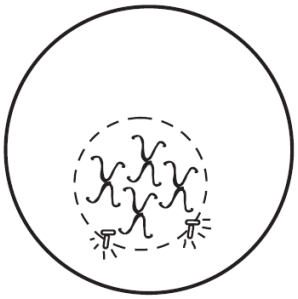
8. A cell has 12 chromosomes. How many chromosomes will each daughter cell have after **MITOSIS**?

9. What is the result of Mitosis & cell cycle?

10. Figure 9-4 illustrates which stage of mitosis?

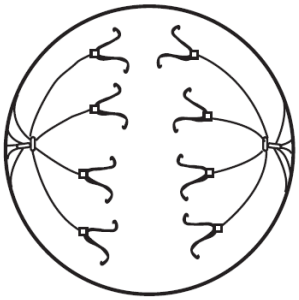


11. The cell in Figure 9-5 is undergoing mitosis. Which stage of mitosis will **follow** this one?



12. List the events that happen during telophase of mitosis.

13. The chromosomes shown in Figure 9-1 are in which state of mitosis?



14. List the events that happen in prophase of mitosis.

15. Why is mitosis important?

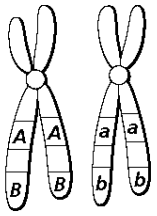
16. Why is meiosis important?

17. What kind of cells does meiosis produce?

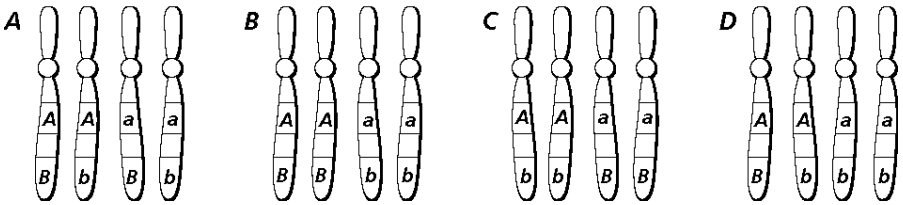
18. Crossing over results in a _____.

19. During which stage of meiosis is crossing over most likely to occur?

20. Using Figure 10-3 below, what would be the result if the two homologous chromosomes (at the top) experience crossing over during meiosis?

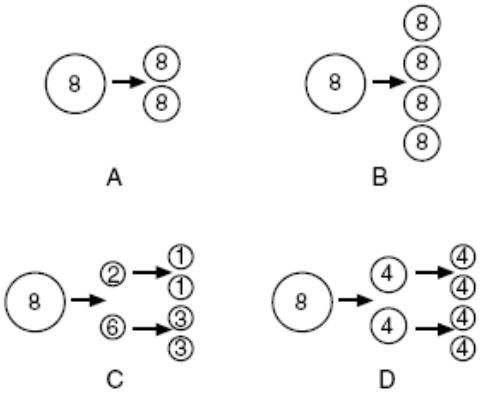


Homologous chromosomes

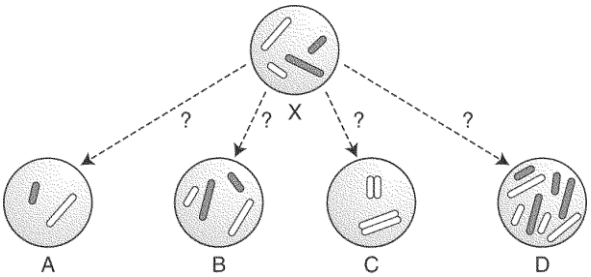


21. The typical human body cell contains _____ chromosomes and a typical human sperm/egg cell contains ____chromosomes.

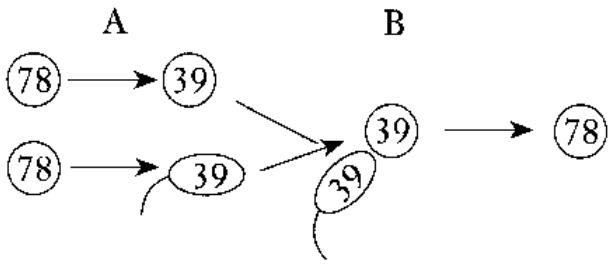
22. Which diagram below represents the process of **sperm** formation in an organism that has a diploid chromosome number of eight?



23. Consider the cell labeled X in Figure 10-9 containing 4 chromosomes. Which of the four cells below it represents a healthy **gamete** that could be produced from this cell?

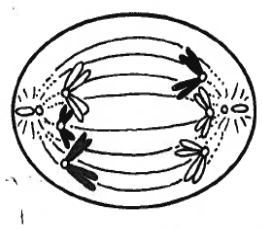


24. The numbers in Figure 10-1 represent the chromosome number found in each of the dog cells shown. The processes that are occurring at A and B are _____.



25. What happens during anaphase I of meiosis?

26. In Figure 10-10 below, name the stage and describe what is happening in the picture.



27. What term is used to describe a **pair of chromosomes** having the same traits (eye color, blood type, etc.)?

28. Cells that contain one set (n) of chromosomes are called _____.

Cells that contain two sets (2n) of chromosomes are called _____.

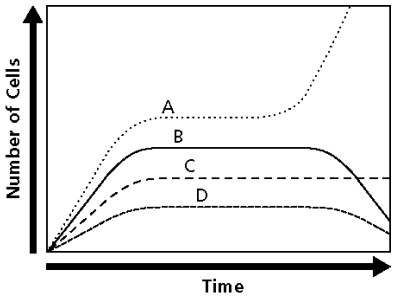
29. What are gametes? List examples of gametes in animals.

	Mitosis	**Meiosis**
30. Creates cells that are diploid.		
31. Has one nuclear division.		
32. Results in four haploid gametes.		
33. Produces 2 daughter cells that are identical.		
34. Involves the pairing and separating of homologous chromosomes.		
35. Process used to create cells needed for sexual reproduction.		

36. The cell cycle is regulated by _____& _____.

37. Describe why cancer cells are able to reproduce so rapidly.

38. Which of the cells depicted in the line graph in Figure 9-2 are most likely cancerous?



39. If cancer is present, what is the likely explanation for what happened to the cells depicted in the curves labeled B and D in Figure 9-2?

40. Which vocabulary term best describes programmed cell death?

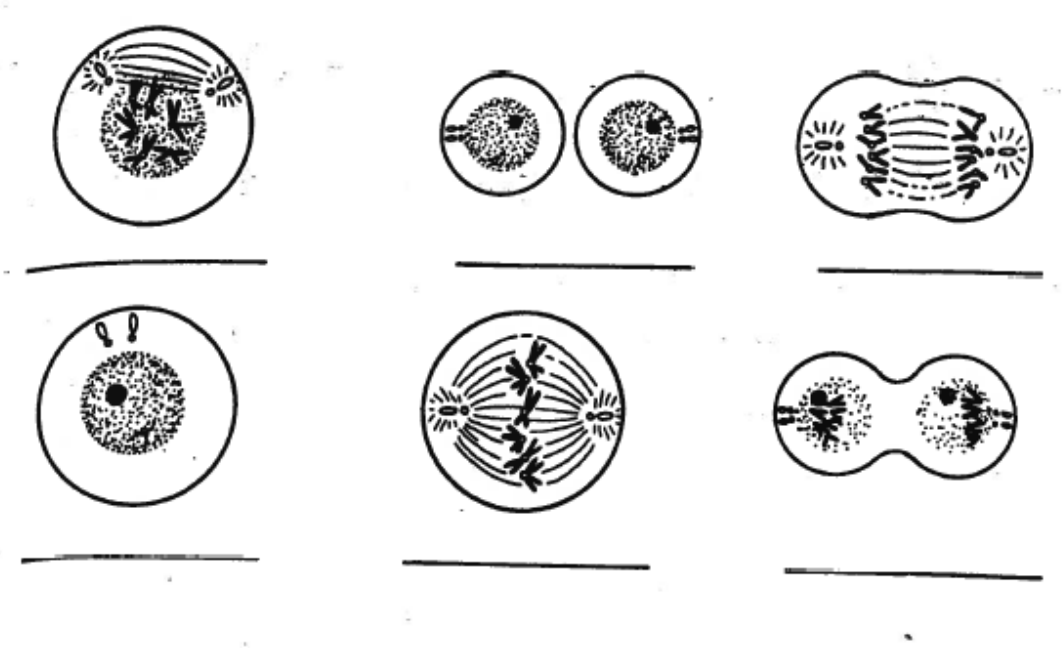
41. Identify three reasons why smaller cells function better and divide rather than growing larger in size.

42. Explain how the cell cycle is controlled. What could happen to the organism if the cell cycle isn't controlled or regulated?

43. What is the difference between cytokinesis of a plant cell and an animal cell? Explain.

44. What are stem cells and how can they be helpful?

45. Figure 9-6 represents cells during the different stages of the cell cycle. Below each cell, **identify the stage** the cell is in, then **number each cell** in the order as to which they would occur (1-6)



46. Compare and contrast mitosis and meiosis.

Mitosis	Compare/Same	Meiosis
•	•	•
•	•	•
•	•	•
•	•	•