

Study Guide – Mitosis and Meiosis

- What are the two main parts of the cell cycle? _____ and _____.
- What is divided into two cells during mitosis? _____ and _____.
- List three things that happen during Interphase.
 - _____
 - _____
 - _____

4. How much time is spent in Interphase? _____

5. What form of DNA is shown in this cell? _____

6. What are these parts called?

- _____
- _____
- _____



7. Why must all chromatids be copied before mitosis or meiosis?

8. Define diploid

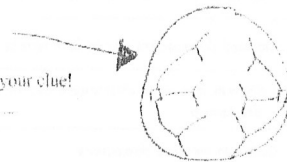
9. How did you get two sets of chromatids?

10. List the phases of Mitosis in order.

- _____
- _____
- _____
- _____

11. What phase is this?

Tell me one thing that is happening in this cell that is your clue!



12. Match the event with the phase.

- | | |
|---|--------------|
| a. Nucleus disintegrates | 1. Anaphase |
| b. Chromosomes separate into chromatids | 2. Telophase |
| c. Two nuclei are visible | 3. Prophase |

13. What is cytokinesis? _____

14. How do plant cells divide differently from animal cells?

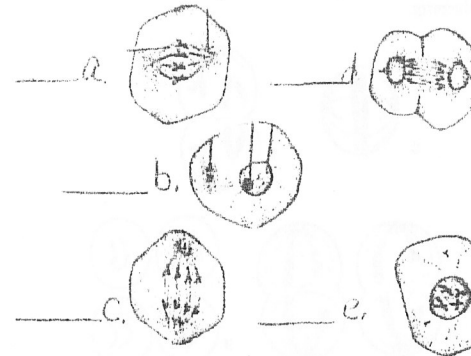
15. How many chromatids are in a normal body cell?

- 46
- 44
- 36
- 24

16. If the human diploid number is 46, what is the human haploid number?

- 46
- 23
- 8
- None of these

17. Match the picture with its name.



1. Telophase

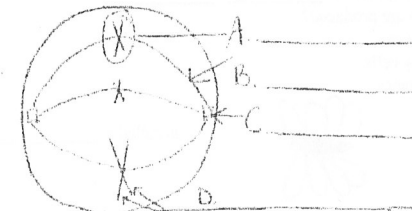
2. Anaphase

3. Interphase

4. Metaphase

5. Prophase

18. Label the chromosome, sister chromatids, spindle fibers and the centrioles.



19. How many cells are made during mitosis? _____

20. Give two reasons why body cells must divide.

- _____
- _____

21. In which phase of the cell cycle is the growth period?

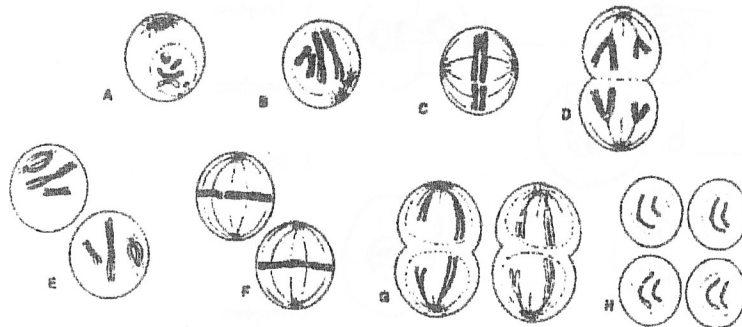
- Mitosis
- Cytokinesis
- Interphase

22. Mistakes in Mitosis results in _____
 a. Birth Defects b. Cancer c. no problems

23. If a cell has 20 chromatids, what will both cells have after mitosis?
 a. 10 b. 5 c. 40 d. 20

24. Chromatin is different from a chromatid _____

- a. Chromatin is uncoiled, chromatid is coiled.
- b. Chromatin is found in Interphase, chromatid during Prophase.
- c. Chromatin is being used as the blueprint.
- d. All of the above.



25. What is the name of the phase at B? _____

26. How many cells are formed by the end? _____

27. Which cell is in Metaphase II? _____

28. What kinds of cells are produced?

- a. diploid gametes
- b. diploid body cells
- c. haploid gametes

29. This structure



is called a _____

30. A tetrad is made of two _____ chromosomes.
 a. homologous b. different c. uncoiled

31. Why are the last four cells called haploid?

32. What process produces cells to heal a cut on my finger? _____

33. What process produces cells for reproduction? _____

34. What connects two sister chromatids? _____

35. A gene is _____
 a. A segment of DNA the codes for one trait
 b. A coiled up piece of DNA
 c. the part that holds the chromosome together

36. When an area of one chromatid is exchanged with the matching area on a chromatid of its homologous chromosome, _____ occurs

- a. Crossing over
- b. Fertilization
- c. Cancer

37. Reproduction that requires two parents is called _____

38. Mistakes in meiosis result in _____

COMPARING MITOSIS AND MEIOSIS

	Mitosis	Meiosis
1. Two new cells are formed from each original		
2. Four new cells are formed from each original		
3. Replication of chromosomes occurs		
4. Doubled chromosomes pair to form tetrads		
5. Cells with a reduced chromosome number are formed		
6. Cells with the same chromosome numbers as original are formed		
7. Results in forming egg or sperm cells		
8. Results in forming somatic or body cells		