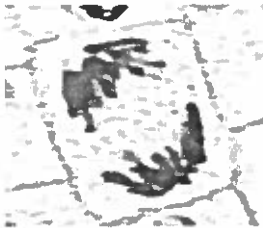


CHROMOSOME/MITOSIS/MEIOSIS REVIEW

Answer the following questions.

1. Name the stage of interphase in which cells copy their DNA. S (synthetic)

2. Name this phase. anaphase

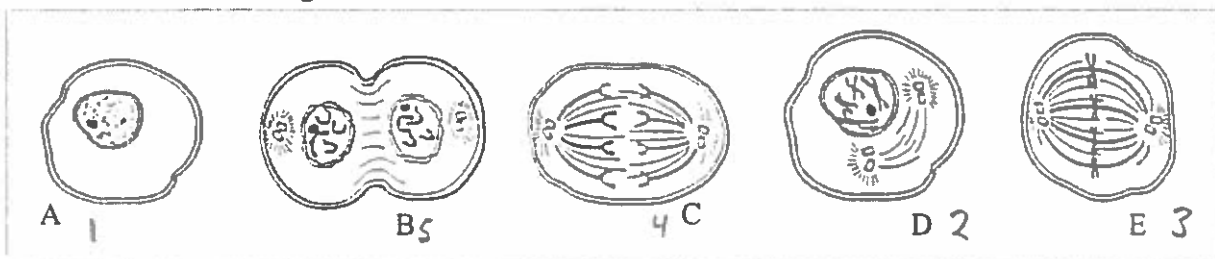


3. Name the phase in which spindle fibers and centrioles disappear. telophase

4. Name this spot that holds the chromatid arms together. centromere



5. Put the following cells in the correct order. A D E C B



6. DNA that is spread out in the nucleus of a non-dividing cell is called chromatin.

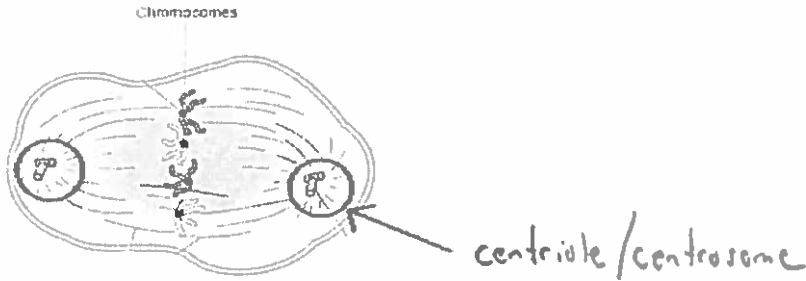
7. Name the phase this cell is in. prophase



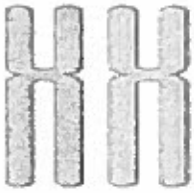
(maybe metaphase (bad pic))

8. Name the phase of the cell cycle in which cells spend most of their time doing their job. interphase

9. Name these structures where the spindle fibers grow from.



10. Phase of the cell cycle in which the cell makes organelles needed for the new cell. G₁

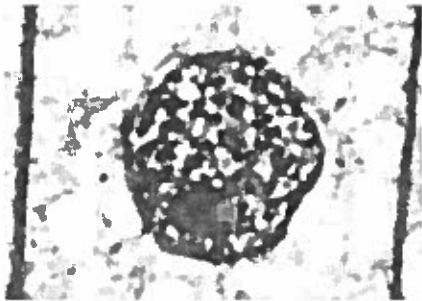


11. Chromosomes that are the same size, same shape, and carry genes for the same traits are called homologous chromosomes.

12. True or False - These two chromosomes are identical.
similar, but not identical

13. Name the phase of mitosis that follows anaphase. telophase

14. Name this phase in which a nucleus is visible and the DNA is spread out as chromatin.

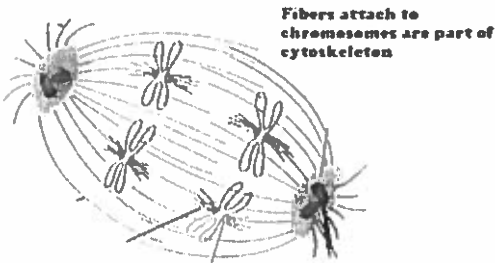


interphase

15. Name the phase of mitosis in which chromatids separate and move to opposite ends of the cell. anaphase

16. TRUE or FALSE - Chromatids of a chromosome are identical.

17. These microtubule fibers that pull the chromosomes are called the spindle fibers.



18. Phase of the cell cycle in which cells stop dividing.

interphase

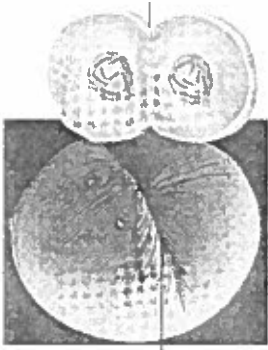
19. Phase of the cell cycle that follows G₁

S (synthesis)

20. Phase in which the nuclear membrane and nucleolus disappear and spindle fibers and centrioles appear.

prophase

21. Tell the phase these cells are in. telophase

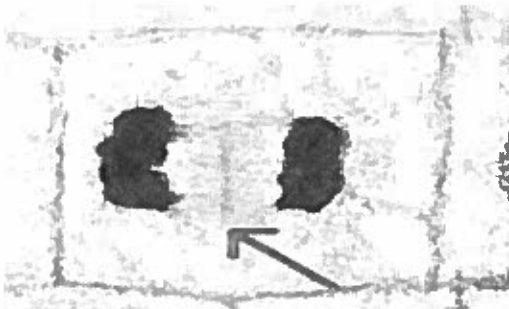


22. Phase of the cell cycle in which the nuclear membrane and nucleolus return. telophase

23. Name the 3 phases (in order) that make up interphase. G₁, S, G₂

24. Phase in which the cytoplasm splits. cytokinesis

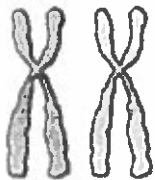
25. Phase in which chromosomes spread out (unwind) into chromatin. telophase



26. What phase is this cell in? telophase

27. What is this dividing wall called? cell plate

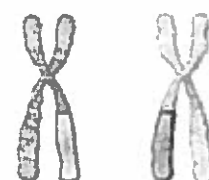
28. If a cell has a total of 34 chromosomes, how many chromatids does it have? 34 in G₁, 68 after S?



1 Two homologous chromosomes pair up with each other during prophase I in meiosis.



2 In this position, some chromatids are very close to each other and segments cross.



3 Some of these segments break off and reattach to the other homologous chromosome.

29. Which process is happening in the picture above? Crossing over

30. During which stage of meiosis does this happen? prophase I

31. What event pulled the two chromosomes next to each other? synapsis

32. Add the following terms and phrases to the Venn diagram on the next sheet comparing mitosis and meiosis. (It is alright if you simply add the # into the diagram.)

1. Produces haploid cells

2. Occurs in germ cells (produces sex cells)

3. Occurs in plant and animal cells

4. In humans, produces cells with 23 chromosomes

5. Involves cellular division

6. DNA is copied once

7. Occurs in body (somatic) cells

8. Produces 4 cells

9. Produces cells that are identical to each other

10. Homologous chromosomes line up paired with each other

11. Cell divides only once

12. Produces diploid cells

13. Produces 2 cells

14. Has 2 separate divisions

15. New cells are different from each other

16. In humans, produces cells with 46 chromosomes

17. Homologous chromosomes do not line up next to each other

