

**MITOSIS**

**Fill in the blank:** write the letter in the blank line. Some letters will be used more than once.

- |                      |                      |                       |                         |
|----------------------|----------------------|-----------------------|-------------------------|
| <b>A.</b> Prophase   | <b>B.</b> Metaphase  | <b>C.</b> Chromatid   | <b>D.</b> Spindle fiber |
| <b>E.</b> Interphase | <b>F.</b> Anaphase   | <b>G.</b> Cytokinesis | <b>H.</b> Cell Plate    |
| <b>I.</b> Telophase  | <b>J.</b> Centromere | <b>K.</b> Mitosis     |                         |

- E 1. What phase are daughter cells in as a result of mitosis?
- F 2. During what phase of mitosis do centromeres divide and the chromosomes move toward their respective poles?
- A 3. What is the phase where chromatin condenses to form chromosomes?
- J 4. What is the name of the structure that connects the two chromatids?
- C 5. In a chromosome pair connected by a centromere, what is each individual chromosome called?
- K, G 6. What are the two parts of cell division? [**2 letters**]
- D 7. What structure forms in prophase along which the chromosomes move?
- B 8. Which phase of mitosis is the last phase that chromatids are together?
- E 9. Which phase of the cell cycle is characterized by a non-dividing cell?
- H 10. What forms across the center of a cell near the end of telophase?
- E 11. The period of cell growth and development between mitotic divisions?
- I 12. What is the phase where cytokinesis begins?
- ❖ Circle the best answer for the next 3 questions.
13. Mitosis:
- takes place only in the brain.
  - is how the cell reproduces and grows.
  - divides only the cell nucleus
  - creates cells that are different from each other.



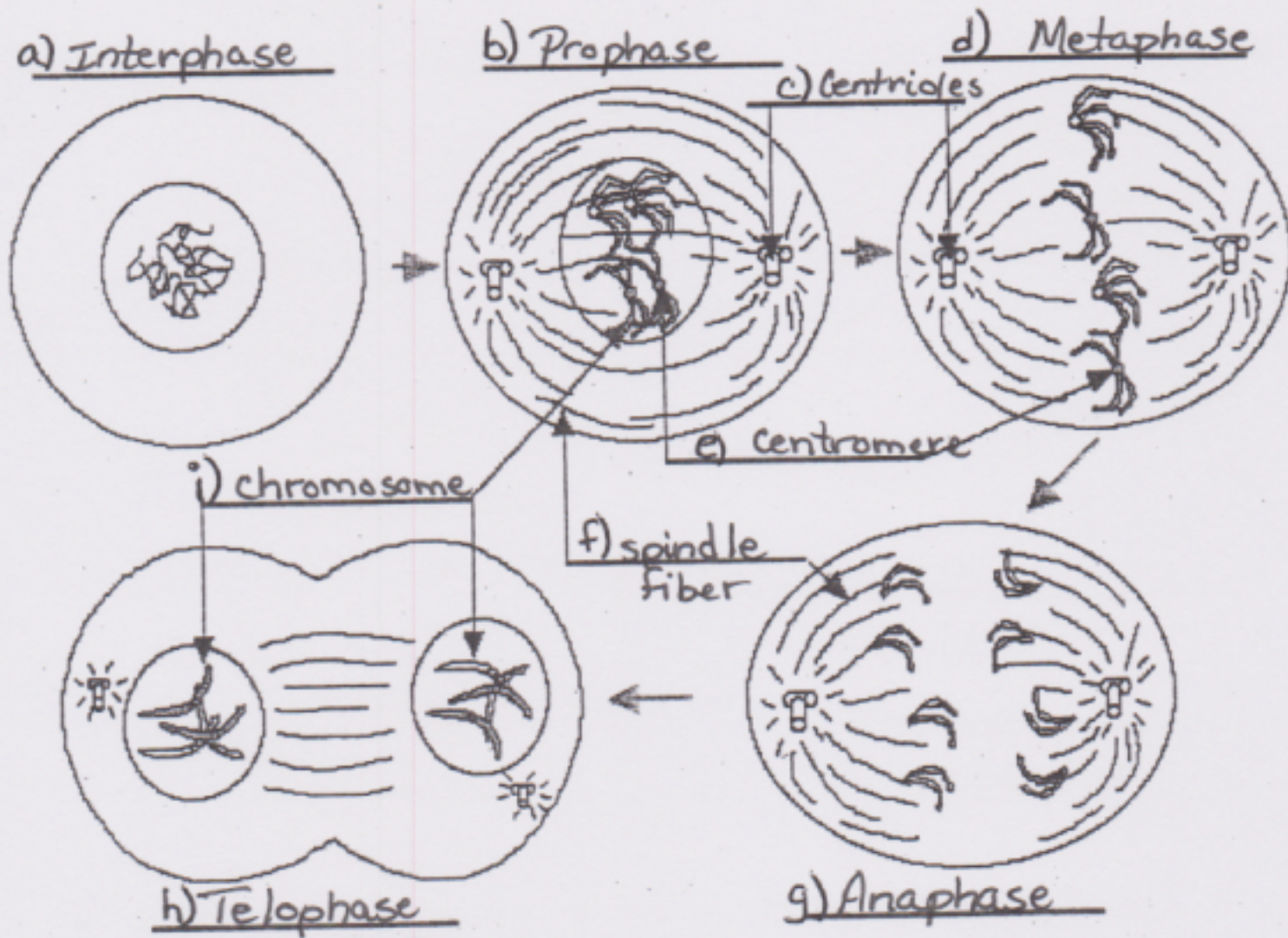
14. During interphase:

- a. the chromosomes duplicate
- b. the cell grows
- c. the cell repairs itself
- d. A and B
- e. B and C

15. During prophase of animal cells, the centrioles:

- a. join together
- b. move to the center of the cell to form 2 separate poles
- c. move to opposite ends of the cell of the cell to form 2 separate poles

16. Label the following diagram of mitosis of an animal cell.

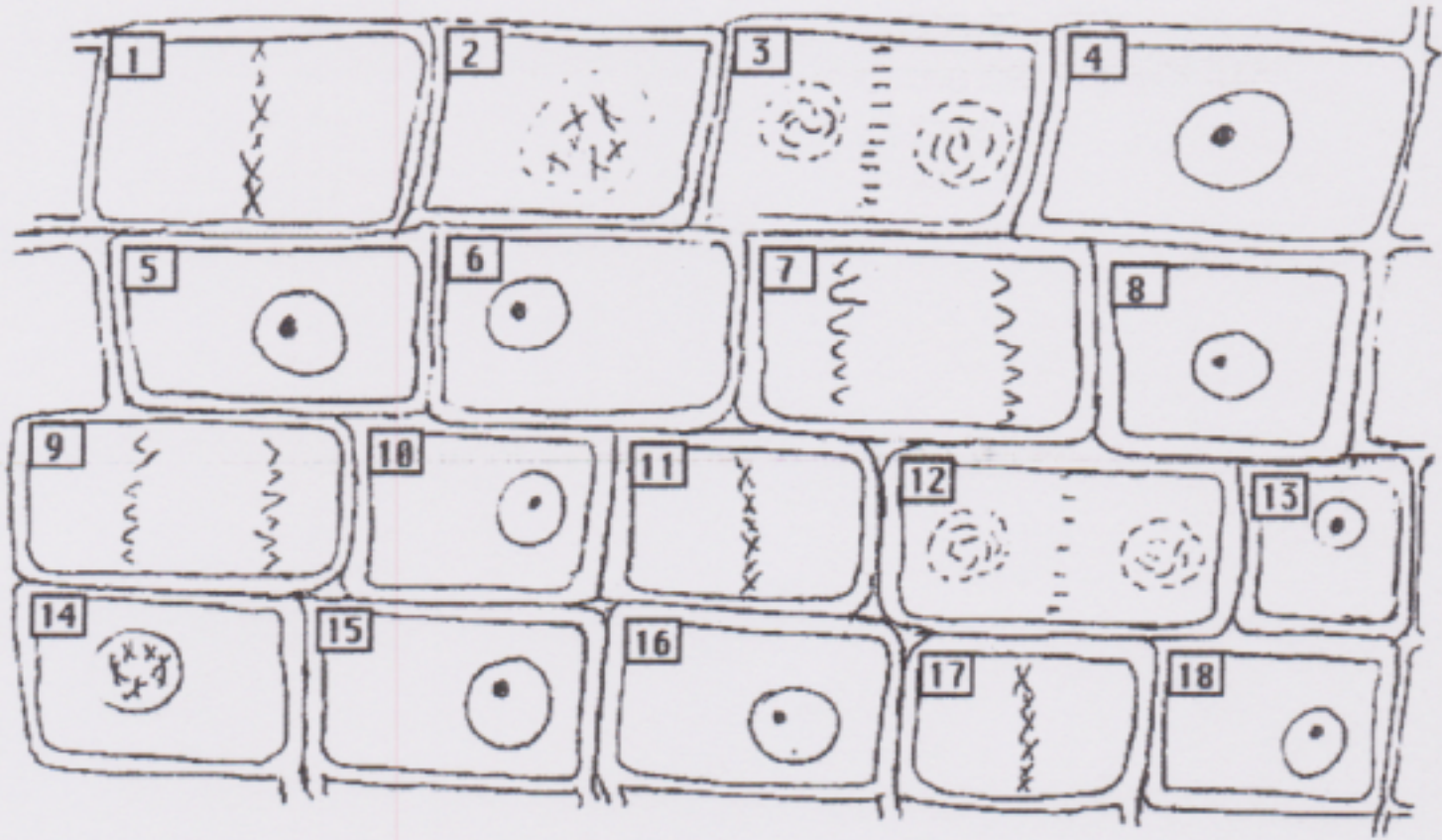


Give two processes which occur during interphase and which are necessary for nuclear division to take place.

Growth of the cell and replication of the DNA



17. This drawings shows various stages of mitosis in a fast growing onion root tip.



Identify the cells (by number) which are in the following stages

interphase 4, 5, 6, 8, 10, 13, 15, 16, 18  
 prophase 2, 14  
 metaphase 1, 11, 17  
 anaphase 7, 9  
 telophase 3, 12

18. Using colored pens or pencils, show how 2 chromosomes are passed from mother cell to two daughter cells.

