

GRADE 12 BIOLOGY
UNIT A – GENETICS
CELL GROWTH AND DIVISION

Name: _____

Date: _____

1. Matching *In the space provided, write the letter of the definition that best matches each term.*

_____ mitosis

a. series of events that cells go through as they grow and divide

_____ chromatid

b. one of two identical “sister” parts of a duplicated chromosome

_____ cytokinesis

c. disorder in which some of the body’s cells lose the ability to control growth

_____ cell cycle

d. division of the cell nucleus

_____ cell division

e. protein that regulates cell cycle

_____ cyclin

f. process by which a cell divides into two new daughter cells

_____ cancer

g. division of the cytoplasm

2. What are the four phases of mitosis?

a.

b.

c.

d.

3. Circle the letter of the name for the two tiny structures located in the cytoplasm near the nuclear envelope at the beginning of prophase

a. centrioles

c. centromeres

b. spindles

d. chromatids

4. What is the spindle?

5. Match the description of the event with the phase of mitosis it is in. Each phase may be used more than once.

Event	Phase
____ The chromosomes move until they form two groups near the poles of the spindle.	a..Prophase
____ The chromosomes become visible	b..Metaphase
____ A nuclear envelope re-forms around each cluster of chromosomes.	c. Anaphase
____ The centrioles take up positions on opposite sides of the nucleus.	d. Telephase
____ The chromosomes line up across the center of the cell.	
____ The nucleolus becomes visible in each daughter nucleus.	

6. What is cytokinesis?

7. How does cytokinesis occur in most animal cells?

8. Circle the letter of what forms midway between the divided nucleus during cytokinesis in plant cells.

a. cell nucleus

c. cell plate

b. cytoplasm

d. cytoplasmic organelles