Name_____ Date_____ Period_____

Mitosis Quiz

A 1. If a cell's job is to produce the enzyme catalase, it will do so primarily during which phase of the cell cycle?

a. G_0 of interphase
b. S of interphase
c. metaphase
d. telophase

D 2. Why must cell division occur?

a. rate/efficiency of diffusion
b. limited DNA
c. maintain large SA/Vol ratio
d. all of the above

D 3. Centromeres are split apart in what phase of mitosis?

a. interphase
b. prophase
c. metaphase
d. anaphase

A 4. Before a cell can divide into two, what must happen?

a. DNA must be copied
b. DNA must be cut in half
c. cell must get smaller
d. reduction in # of organelles

C 5. Sister chromatids are

a. going to the same cell after mitosis
b. attached by a centriole
c. genetically identical
d. homologous

B 6. The spindle forms during what phase of the cell cycle?

a. interphase
b. prophase
c. metaphase
d. telophase

C 7. During a majority of the cell's life, its DNA is

a. uncoiled and visible
b. coiled and visible
c. uncoiled and invisible
d. coiled and invisible

B 8. DNA is replicated during

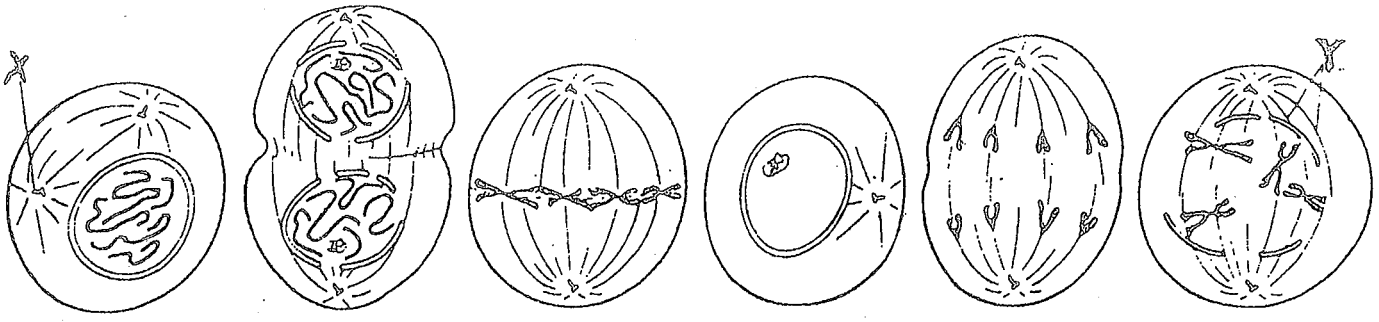
a. G_1 phase of interphase
b. S phase of interphase
c. G_2 phase of interphase
d. prophase

A 9. Which of the following is NOT true regarding centrioles

a. they are only found in plants
b. they move to opposite ends of the cell during prophase
c. they are made of microtubules
d. they are only found in animals

B 10. Division of the cytoplasm is known as

a. cytoplasmlysis
b. cytokinesis
c. mitosis
d. cell cycle



A B C D E F

EARLY PROPHASE TELOPHASE METAPHASE INTERPHASE ANAPHASE LATE PROPHASE

Each of the following refer to the diagram above.

11. Which cell is in metaphase? C

12. In cell A, what structure is labeled X? CENTRIOLE

13. In cell F, what structure is labeled Y? SPINDLE FIBERS

14. Sequence the six diagram in order from first to last.

D, A, F, C, E, B

15. Which cell is in anaphase? E

16. Which cell is in telophase? B

17. Which cell is in interphase? D

Cell Cycle Vocabulary Probe

Name: ____________________

G	centromere	a. identical chromosomes bonded together at a centromere
L	centrioles	b. condensed DNA-- duplicated or unduplicated
J	chromatin	c. uncontrolled cell growth
B	chromosome	d. damages DNA
A	chromatids	e. tells cells it's ok to divide (like "accelerator")
D	mutagen	f. microtubule structures that move chromosomes around in cell division
H	contact inhibition	g. it joins two sister chromatids at the center
F	spindles	h. stops a cell from dividing when other cells are touching it
C	cancer	i. a change to the DNA
E	proto-onco gene	j. uncoiled, tangled mass of DNA
K	tumor suppressor gene	k. tells cells not to divide (like "brakes")
I	mutation	l. these barrel-shaped microtubules move to opposite poles

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C	Anaphase	a. the longest phase- most of the cell's life is spent in this phase
E	Telophase	b. phase in which chromosomes line up at the equator (midline)
A	Interphase	c. phase in which chromosomes separate and move to opposite poles
B	Metaphase	d. phase in which the nuclear membrane dissolves
D	Prophase	e. phase in which there are two separate nuclei and membranes re-form

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CONTROL OF CELL CYCLE CONNECTIONS CIRCLES

DIRECTIONS:
1. Write a definition for each term in the lines provided.
2. Connect as many circled terms as you can and write a brief description of the connection on the line you draw

Cylin → GO

RISE & FALL IN CELL

INTERACT W/ KINASE TO MOVE CELL CYCLE FORWARD

Kinase → GO

ALWAYS SAME AMOUNT IN CELLS

ACTIVATES ENZYMES TO MOVE CELL CYCLE FORWARD WHEN BOUND TO A CYCLIN

Proto-oncogene → GO

SEGMENT OF DNA THAT CODES FOR CELL CYCLE TO GO.

Oncogene → GO (WHEN IT SHOULDN'T)

MUTATE P.O. genes codes for Cell Cycle To Go WHEN it shouldn't

Tumor Suppressor Gene → STOP

DNA SEGMENTS THAT CODE FOR PROTEINS TO STOP CELL CYCLE

Tumor Suppressor Protein → STOP

Proteins that stop the cell cycle (cell cycle arrest)

Checkpoint Controls → STOP

Proteins that stop the cell cycle because something is wrong.