

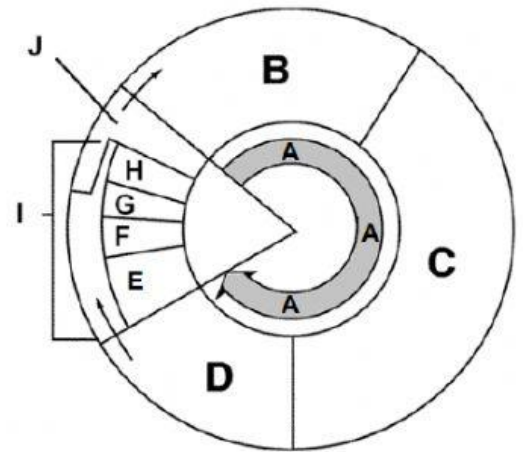
Cell Cycle, Mitosis, & Cancer Review

Due Date: _____

Using the labeled Cell Cycle diagram to the right do the following:

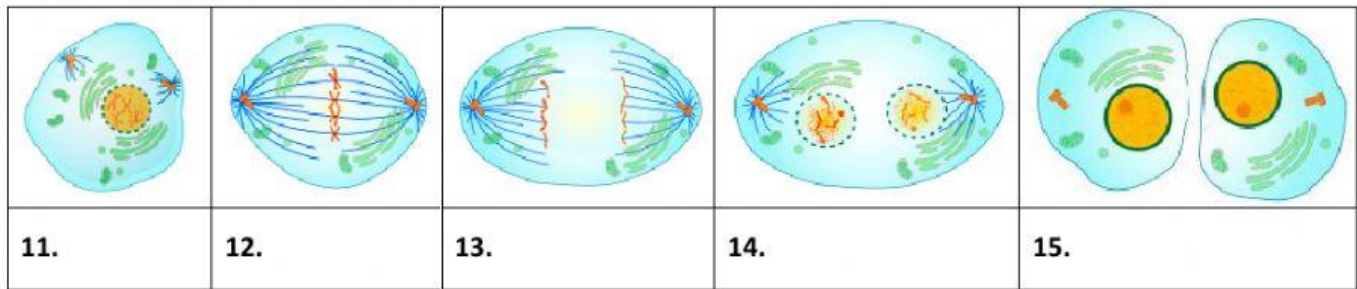
Left column: place the corresponding letter for the correct stage

Right column: Complete the description of the stage in the



1. A	_____ : Consists of G ₁ , S and G ₂ phases in the Cell Cycle.
2. ____	Cytokinesis – division of the cytoplasm resulting in two identical d_____ cells.
3. ____	G₁ – growth phase: Makes organelles and proteins needed for replication of DNA. Also contains a G ₁ checkpoint . If everything is correct, cell will proceed to S phase.
4. ____	S phase : DNA is replicated or synthesized .
5. D	G₂ - growth phase : Cell gets ready to undergo M_____. Also contains a G ₂ checkpoint. If DNA replication is correct, checkpoint allows cell to enter M phase.
6. ____	Prophase : chromatin condenses to become chromatin , nuclear envelopes breaks down, and centrioles migrate to opposite poles in animal cells. Nucleolus disappears .
7. ____	M _____ : sister chromatids line up along the metaphase plate in the middle . Spindle apparatus attaches at the centromere of the chromosomes.
8. G	A _____ : sister chromatids separate and move to opposite sides of the cell. The s_____ a_____ pulls them apart. This phase ends when the chromatids stop moving.
9. ____	Telophase : two nuclear envelopes begin reforming. Chromatids relax, uncoil & are now chromatin. Cytokinesis is occurring during Telophase but it is NOT considered a part of mitosis because it does not involve the nucleus of the cell. In plant cells, a cell plate begins to form while a c_____ f_____ is visible in animal cells.
10. ____	Mitosis : division of a cell's nucleus. Occurs in this order: prophase, _____, _____, and telophase.

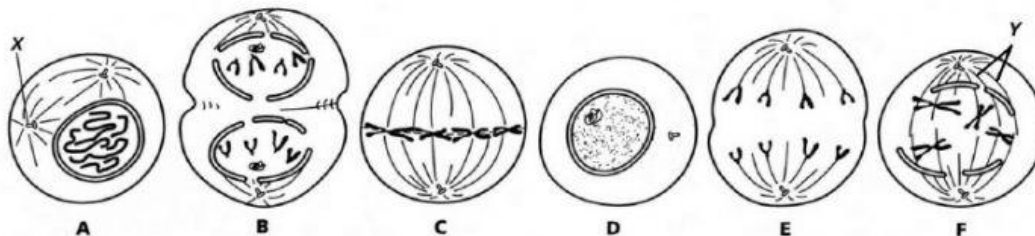
Label the phases of Mitosis below:



Complete the table by selecting yes and no in the correct column for each statement.

Statement	Interphase	Mitosis
16. Cell growth occurs		
17. Nuclear division occurs		
18. <i>Chromosomes</i> are finishing moving into separate daughter cells.		
19. Chromosomes are duplicated		
20. DNA synthesis occurs		
21. Where cells spend most of their life		
22. Mitochondria and other organelles are made.		

Use the following illustrations for questions 23 - 32



23. In cell A, what is the structure labeled X? _____
24. In cell F, what is the structure labeled Y? _____
25. Which cell is not in a phase of mitosis? _____
26. New nuclear membranes are forming in B. What is this phase called? _____
27. Sequence the six diagrams in chronological order from first to last. _____, _____, _____, _____, _____, _____
28. Chromosomes move to the middle of the cell during? _____
29. When do the sister chromatids separate? _____
30. During which phase do chromosomes first become visible? _____
31. During which phase does the cleavage furrow start forming on animal cells? _____

32. If a cell has 46 chromosomes, how many chromosomes will each daughter cell have after mitosis? _____

Identify the stage of mitosis each lettered plant cell is in:

33.	A	
34.	B	
35.	C	
36.	D	
37.	E	

