**CHAPTER 9: CELLULAR REPRODUCTION FINAL EXAM REVIEW 2012**

**\**ALL OF THE QUESTIIONS SHOULD BE ANSWERED AS A TYPE II.***

**CHAPTER 9**

**SECTION 1: Cellular Growth**

1. Explain what limits a cells size. Include what happens when a cell reaches its size limit. B**E SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: surface area, volume, micrometers, SA:V Ratio, and plasma membrane.**
   1. **If you have a cubed shaped cell that is 3 micrometers on each side, calculate the SA, Vol, and SA:V Ratio.**
2. When a cell grows, does volume or surface area increase more rapidly? Explain why it is important for a cell to remain small. B**E SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: nutrients, waste products, greater SA:V Ratio, transport, and cellular communications.**

**Section 2: Mitosis and Cytokinesis**

1. Explain why and how cells reproduce. **BE SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED:** cell cycle, grow, damaged cells, interphase, mitosis, cytokinesis.
2. Describe interphase in detail starting with the G1 stage. **BE SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: G1, G2, S (synthesis), DNA, Muscle cells, nerve cells, replication, chromatin, mitosis, and nucleus.**
3. During prophase of mitosis explain what occurs within the cell. **BE SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: chromatin, chromosomes, nuclear envelope, nucleolus, spindle apparatus, centrioles, spindle fibers, aster fibers, sister chromatids, centromere, microtubules, animals, protist, longest, and poles.**
4. Metaphase is the second stage of Mitosis, explain what is occurring. **BE SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: sister chromatids, equator, spindle fibers, shortest.**
5. Anaphase follows metaphase. Describe what occurs during this stage. **BE SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: spindle fibers, chromatids, centromere, identical, chromosomes, and poles.**
6. Describe what occurs during the final stage of mitosis referred to as Telophase. **BE SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: chromosomes, chromatin, spindle apparatus, spindle fibers, centrioles, aster fibers, nuclear envelope, nucleolus, 2 nuclei, identical, microtubules, cytoskeleton, and nuclear material.**
7. Describe what occurs during cytokinesis for both an animal cell and plant cell. **BE SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: microfilaments, cell plate, daughter nuclei, cytoplasm, furrow, and cell wall.**
8. Describe how cell division is different in prokaryotic cells. **BE SURE TO USE TO FOLLOWING TERMS and UNDERLINE THEM WHEN USED: binary fission, dna, replicates, plasma membrane, interphase, mitosis, and cytokinesis.**