

Test #3 Extra Credit Review Sheet
10-1, 10-2, 10-3, 11-4, 11-5

1. Give two reasons why cells divide. As a cell increases in size, which increases more rapidly, its surface area or volume? Explain why.
2. Calculate the surface area, volume, and ratio of surface area to volume of an imaginary cubic cell measuring 4cm on each side. Also do the same for a cubic cell measuring 5cm on each side.
3. List the three parts that make up interphase. Describe what happens during each.
4. Describe what happens during each of the four phases of mitosis.
5. What are chromosomes made of? Draw a chromosome and label the centromere.
6. How do prokaryotic cells divide?
7. What chemicals regulate the cell cycle? How do they work? What happens when cells do not respond to the signals that normally regulate their growth?
8. How do cells respond to contact with other cells? Why can cancer be considered a disease of the cell cycle? What is a tumor?
9. What is the p53 gene? What happens when it becomes defective?
10. Describe the main results of meiosis
11. What are the differences between mitosis and meiosis?
12. What do the terms diploid and haploid mean?
13. What is crossing over? When does it occur? What are tetrads? When do they occur?
14. What are gametes? List the male and female gamete (there are only 1 for each!). What process forms them?
15. What are gene maps, and how are they produced?