**Cancer Genomic Landscape Article – Guided Reading Take-home Exam**

Directions: Please read the accompanying article, “Cancer Genomic Landscapes,” then answer the following questions. It is recommended that you review the questions before you read the article. Consulting your assignments “Birth and Death of Gene” and “Cancer and the Cell Cycle” Activities may also be helpful. Please complete this assignment individually. Type your answers and submit as a Word document to the link on Blackboard by midnight on October…

1. What is a somatic mutation?
2. Identify and explain two types of DNA mutations described in the article.
3. What is a mutagen? Give a couple of examples.
4. Explain the difference between a benign and malignant tumor.
5. How is timing related to metastasis and thus to patients with regard to the success/ability to remove a tumor?
6. What is clonal growth/expansion?
7. What is a driver gene mutation? What are the two distinct meanings of this term used in the cancer literature?
8. What are the two suggested categories of driver genes presented in this article? Identify and describe each.
9. Explain the difference between primary and metastatic tumors.
10. Identify and describe the four types of genetic heterogeneity in tumors.
11. Identify and describe the three core cellular pathways into which most cancer cell signaling pathways are organized into.
12. Identify one opportunity and one challenge that better understanding of cancer genomics presents.