**Cell Specialization and Commuunication Recovery Test**

1. Describe how signal transduction works and the cell machinery invovled in receiving and reacting to a chemical signal. What role can second messengers play in signal transduction?
2. Contrast distance vs. local signaling of cells.
3. Contrast the action of lipid-soluble hormones and protein hormones.
4. How is signal transduction different from a nerve impulse? Give specific examples.
5. Sketch a neuron and use arrows to show the direction of the nerve impules. Describe how the impulse is transmitted.
6. What is the purpose of Schwann Cells? Describe what happens at each node of Ranvier.
7. Define Stem cell and describe the process of differentiation. Make sure that you include the role of DNA regulation in this process.
8. Hormones often work in antagonistic pairs. Describe the action of ONE antagonistic pair for maintaining homeostasis.