

Name \_\_\_\_\_

Essay section: Use complete sentences in paragraph form to answer the following questions. Be creative and use your own words, **do not paraphrase** from the text or any other materials. You may consult your text or the www, you may not consult other humans. Typing is always appreciated!

1. (15 points) Describe the defective protein that is responsible for cystic fibrosis. In addition to information in our text, be sure to consult other sources. Give a complete citation (include the full URL for web materials) for all information that you use to answer this question. Remember to use your own words.
  
2. For the next two questions, fully describe an example of each of the following. More points will be given if you use an example that is not given in the text.
  - a. (15 points) Ligand gated ion channel, nicotinic acetylcholine  
or (20 points) Ligand gated ion channel, GABA, gamma amino butyric acid
  - b. (15 points) Receptor enzyme, insulin  
or (20 points) Receptor enzyme, Epidermal growth factor or platelet derived growth factor.
  
3. (15 points) Fully describe how steroid hormones exert their effects. You should be sure to read chapter 28 material as well as the information in chapter 12.