Name: _____ Date: _____

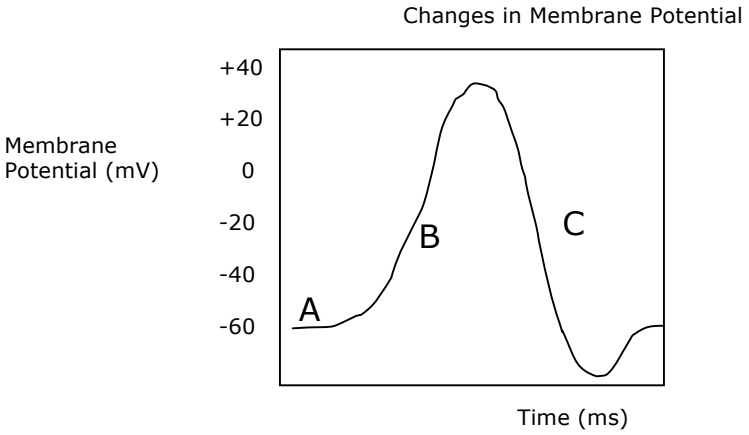
Neurons & Impulse Conduction Questions

1. What is the charge or difference in electrical potential for a "polarized membrane" and how do ion concentrations work to make it that way? (2 marks)

2. Why does the polarity of a cell membrane reverse during an action potential? (2 marks)

3. Why do nerve impulses move faster along myelinated neurons? (2 marks)

4. Use the following diagram to answer parts (a) and (b).



a. Which area of the graph indicates the diffusion of Na+ ions into the neurons? Explain your answer. (2 marks)

b. Repolarization is occuring in which area? Explain your answer. (2 marks)

5. Explain the difference between depolarization of a neuron and an action potential. (2 marks)

6. Some people report they have a high pain tolerance. Explain how this could be due to threshold levels. (2 marks)

7. Describe the "all-or-none" response. (2 marks)