Name:_____

PID:_____

Date:_____

*Introduction to NIA Worksheet*

**Instructions:** Work through the **Introduction to NIA** lab in section and answer the following questions. All plots must be hand drawn. Use the back side of this sheet for drawing if you need more room. Feel free to ask TA/IAs for assistance. The lab worksheets will be graded for completion and correctness.

1. What is the lowest amplitude value necessary to elicit an action potential during this experiment?

2. Using the same experimental conditions found in problem 1, how long does it take for voltage to return to rest after the action potential?

3. Draw the results of your experiment changing the temperature. Do these results make sense or do they surprise you, why or why not?

4. Draw the results of your experiment changing the external concentration of Na. What is the lowest concentration of sodium necessary to generate an action potential?

5. What happens when you set the internal concentration of Na equal to the external concentration of Na?

6. What happens when you increase the external K by a very large amount? What part of the action potential do you think this K effects.

7. **Extra Credit: Real World Application** Explain what a ‘patch’ is in your own words. In a physical experiment on a neuron, why is it practical to use a patch?