## Pre-lab

Name: $\qquad$ Section: $\qquad$
Read over the theory and procedure for this lab before completing this pre-lab.

1. What is the purpose of this lab?
2. Imagine if there was a part 3 of this lab procedure, where you draw a set of squares, with side lengths of your choosing, and then measure their areas by counting squares on graph paper. Let the side length of the square be the variable $x$ and the area be $A$.
a) Is A or x the independent variable in this hypothetical situation?
b) If you wanted to construct a graph of your data, would A or x be on the vertical axis?
c) What would be the title of your graph, Area vs Side Length or Side Length vs Area?
d) Thinking about the (well-established) theoretical equation for the area of a square $\mathrm{A}=\mathrm{x}^{2}$, which functional form would you choose for a regression curve? Choices are: linear, exponential, polynomials of order 2 , polynomial of order 3 , etc.
e) Still considering the equation $A=x^{2}$, what is the theoretical prediction for the leading coefficient of the regression curve?
