Quiz #1

Name:_____

Answers to this quiz are found between pages iii and 6 of the lab manual.

1. You measure the length of a pencil ten times with a kid's ruler that is marked only in inches. Is the resulting error random or systematic? _____

2. In the previous measurement, what method should be used to determine the numeric value of the uncertainty in the measurement? _____

3. You use a photo of your house to determine it's height. Since you can see a fire hydrant of known height in the image, you use it to get the scale, even though the hydrant was much closer to you than the house. Is the error random or systematic? _____

4. In the previous measurement, what method should be used to determine the numeric value of the uncertainty in the measurement? _____

5. After many measurements, you calculate that a certain time is 0.2345678 ± 0.0045678 s. Using units of seconds, write this result in proper notation: _____

6. Repeat problem 5, but write your answer in ms: _____

7. A certain measurement is 4.56×10^{-7} kg, with an uncertainty of 7.89×10^{-11} kg. Write this result in proper notation. Read page vii carefully! _____

8. You make a dozen measurements of position as a function of time.You expect the speed to be constant, so you make a plot. What is the name of the Excel tool you will use to compute the slope? _____

9. In Excel, you normally press "enter" to complete a formula you type. But when using "Linest", what do you press instead? _____

10. What is the name of the software you downloaded to use in our first lab so that you can analyze (i.e., get numbers for stuff) from videos? _____