The general task you have to accomplish in an analysis section of a lab report is this: You start with a bunch of numbers, your measurements. You want to wind up with a few numbers, maybe only one, that characterize those measurements. Those few numbers in turn presumably tell you something about a theoretical prediction you or someone else has made; typically you have to make a decision about the validity of a theory based on you results.

In your analysis section, you show the reader how you got from the many numbers to the few, in enough detail that the reader can decide if you used the appropriate methods and carried them out correctly. Then you present your case for the implications of your numerical results. For example, in the first lab you will measure the focal length of several lenses. You will measure object and image distances for several lens configurations and apply the thin-lens equation in order to calculate the focal length. You must also decide whether or not the thin-lens equation is an accurate description of the system.