

For problems 1 & 2, use Excel to set up tables and graphs for the following. Your worksheets should be set up so the graphs are “zoomable”, using the *Start Value*, *Stop Value*, *# of Steps* and *Step Size* for the table as parameters. Always, always label the axes and give your chart a title. These two problems should be on separate worksheets, please label your worksheets.

1. The speed (v , in mph) of a car based on the length (L , in feet) of its skid marks on dry pavement can be estimated with the function $v = \sqrt{24L}$. Adjust the start and stop values so that speeds of 0 to 80 mph are displayed on your graph.
2. Plot the two lines $y = 120x - 240$ and $y = -75x + 1125$ together on the same graph. To do this, set up your worksheet so that the table has a column for x , a y_1 column for the first line and a y_2 column for the second line. Select all three columns together and then select Insert Scatter Plot. Zoom in on the point of intersection to determine its coordinates accurate to one decimal place.

For problems 3, 4 & 5, use Goal Seek to answer the following questions. Be sure to write out the equation you will be using Goal Seek to solve and to answer the question with a sentence. You could put all three of these problems on one worksheet.

3. A dangerous virus is spreading through a population and 300 have fallen ill so far. If d stands for the number of days since the first of August and N is the number of victims **in hundreds**, and if $N(d) = 3(1.32)^d$, when will the number of victims reach 4000?
4. How much must be invested now at 3.5% in order to accumulate \$12,000 in ten years? Assume annual compounding.
5. If an investment increased by 40% over 3 years and rose by the same percentage rate each of those years, what was the rate?

(Hint for #4 and #5, see the class notes: Algebra Basics and Percents.)