1. Your engineering firm has been asked to determine the deceleration of a car during hard braking. To do so, you decide to measure the lengths of the skid marks when stopping from various initial speeds. Your data are as follows

speed (m/s)	Skid length (m)	
10	7	
15	14	
20	27	
25	37	
30	58	

   a) which kinematic equation would be appropriate for anaylzing the data?

   b) Using python, make a plot of v^2(square all velocities) vs. skid length.

   c) What you did in part (b) is called linearizing a data set. By looking at the graph from part (b), do you think the data support the assertion that the acceleration is constant, independend of speed? Why or why not?

   d) Using Python, fit the modified data(v^2 vs. skid length) to a line. From the fit function, extract a numerical value for the acceleration of the car. (Note: For instruction on how to fit a data set to a function, see section 12.2 in the python book