The following two questions apply to the set of 8 graphs we discussed in the first lab that dealt with motion. The first question deals with position and the second question deals with velocity and speed. Your answer to each question should have 8 sub parts and you must explain your answer.

Essay # 1 (16)
For each graph (or each section* of the graph) describe whether the object that is being detected is moving toward or away from the detector. Describe if the object where the object starts, how the object travels, and where it ends up in relation to the detector. Explain how you arrive at your answers.
* Section of a graph. So if a graph increases and decreases, it can be broadly classified into two sections, one which increases and the other which decreases. Some graphs might not have more than one section.

Essay #2 (24 points)
1. Describe what you mean by the slope of a graph in terms of its visual appearance. (2)
2. If you are given two points (X_1 ,Y_1) and (X_2 , Y_2), how do you calculate the slope mathematically? Discuss how a graph looks when the slope is negative, zero or positive. (6)
3. If we are given a position time graph, the slope gives us the velocity (it can be positive and negative), while the absolute value of the slope, which is basically the steepness gives us the speed of the object (i.e., how fast the object is moving). For each of the 8 graphs (or its sections) describe how the speed and the velocity of the object change as the object moves. (16) (*There are 8 graphs and some of them have two sections. You will have to talk about the speed and velocity for each of them).*