



Reflections on the 2015 AP Physics 1 Exam Free Response Questions

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With a few important exceptions, I am not going to repeat my suggestions from my video, "8 General Suggestions for the Free Response Questions of any AP Physics Exam".

<http://www.flippingphysics.com/8-general-suggestions.html>

1. Write legibly.
2. Graphs are answers.
 - a. Draw carefully.
 - b. Use a legend.
 - c. Use a straightedge for straight lines.
3. Beware lowercase variables vs. uppercase variables.
4. Free Body Diagrams are answers.
 - a. Draw carefully.
 - b. Lengths of arrows represent relative magnitudes.
 - c. Forces only.
 - d. Label forces.
 - e. Do not break into components on your initial diagram.
5. Be careful with your algebra.
 - a. Slow and steady.
6. Specific terms:
 - a. *Describe* means you need to show you understand the underlying physics principles in describing an event or situation.
 - b. *Explain* means you need to be able to provide evidence that clarifies what you just described.
 - c. *Justify* means an evidence based argument to support a previous answer. You will likely include equations and refer to graphs; however, you need to write in full sentences.
 - d. *Derive* means you need to *start with fundamental equations* and use algebra and/or geometry to arrive at a final answer. The final answer will most likely be an equation, however, it might be a number.
 - e. *Calculate* means you need to start with an equation, however, it doesn't need to be a fundamental equation, plug in numbers and use algebra and/or geometry to arrive at a final answer. The final answer is most likely a number, however, it might be an equation.
 - f. *"What is" and Determine* both mean no explanation necessary. They are just looking for an answer.
 - g. *Sketch* means to draw a graph with estimates the relationships.
 - i. Differences between straight lines and curves need to be clear.
 - h. *Plot* means to add specific data to a graph using a provided scale or a scale you need to create.
7. Weight and mass are not the same.
 - a. I have a video for this. <http://www.flippingphysics.com/weight-not-mass.html>
8. You will have to design an experiment.
9. There will be short answer.
 - a. You will have to write complete, legible sentences.
10. You will have to compare different situations.