

## **AP Physics 1 Review Questions**

## Integrating Content, Inquiry and Reasoning

- 1. Galileo carried out his seminal free-fall experiment using an inclined plane. Why is such an approach feasible, and sometimes preferable to the simple drop method, for determining g?
- 2. Would "throwing" the picket fence up or down prior to its passing through the photogate affect the experimentally determined *g* value?
- 3. A student performed a sphere drop experiment. The sphere was dropped from 1.50 m above the ground and the sphere has a mass of 0.875 kg. Free fall times for the student's experiments are below.
  - *a*. Before the student calculates the acceleration due to gravity from the data, are there any trials that should be thrown out? Justify your choice.
  - b. Calculate the average acceleration due to gravity from the student's data.

Free Fall Time (s)
0.553
0.700
0.557
0.552
0.555

4. Which graph below represents how the velocity of the sphere changes over time when falling with constant acceleration? Justify your choice.



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