

M1Intro.HW [Compatibility Mode] - Microsoft Word

6. Both of the velocity graphs below, 1 and 2, show the motion of two objects, A and B. Answer the following questions separately for 1 and for 2. Explain your answers when necessary.

a) Is one faster than the other? If so, which one is faster? (A or B)
 b) What does the intersection mean?
 c) Can one tell which object is "ahead"? (define "ahead")
 d) Does either object A or B reverse direction? Explain.

Handwritten notes:

- Graph 1: A is faster
- Graph 2: A is faster (initially), B is faster (after intersection)
- Intersection: Same velocity at same time
- Graph 2: You can't tell which is ahead
- Graph 2: Neither changes direction => sign of velocity stays the same

a) A faster -> higher on graph A, than B
 b) Same velocity at same time
 c) You can't tell which is ahead
 d) Neither changes direction => sign of velocity stays the same

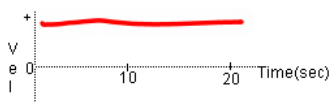
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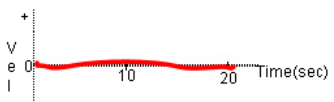
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7. The object is moving away from the origin at a steady (constant) velocity.




8. The object is standing still.



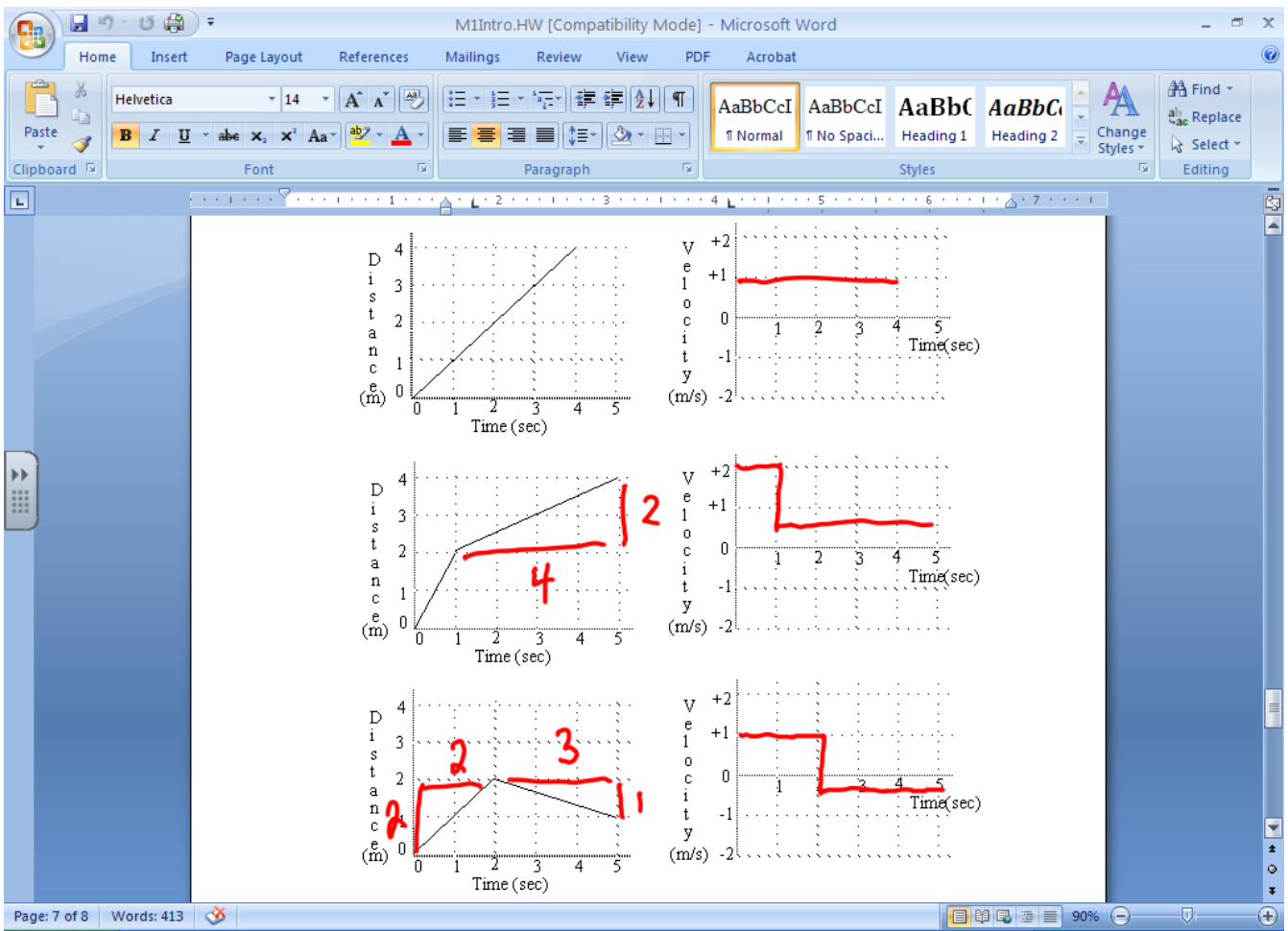
9. The object moves toward the origin at a steady (constant) velocity for 10 seconds, and then stands still for 10 seconds.

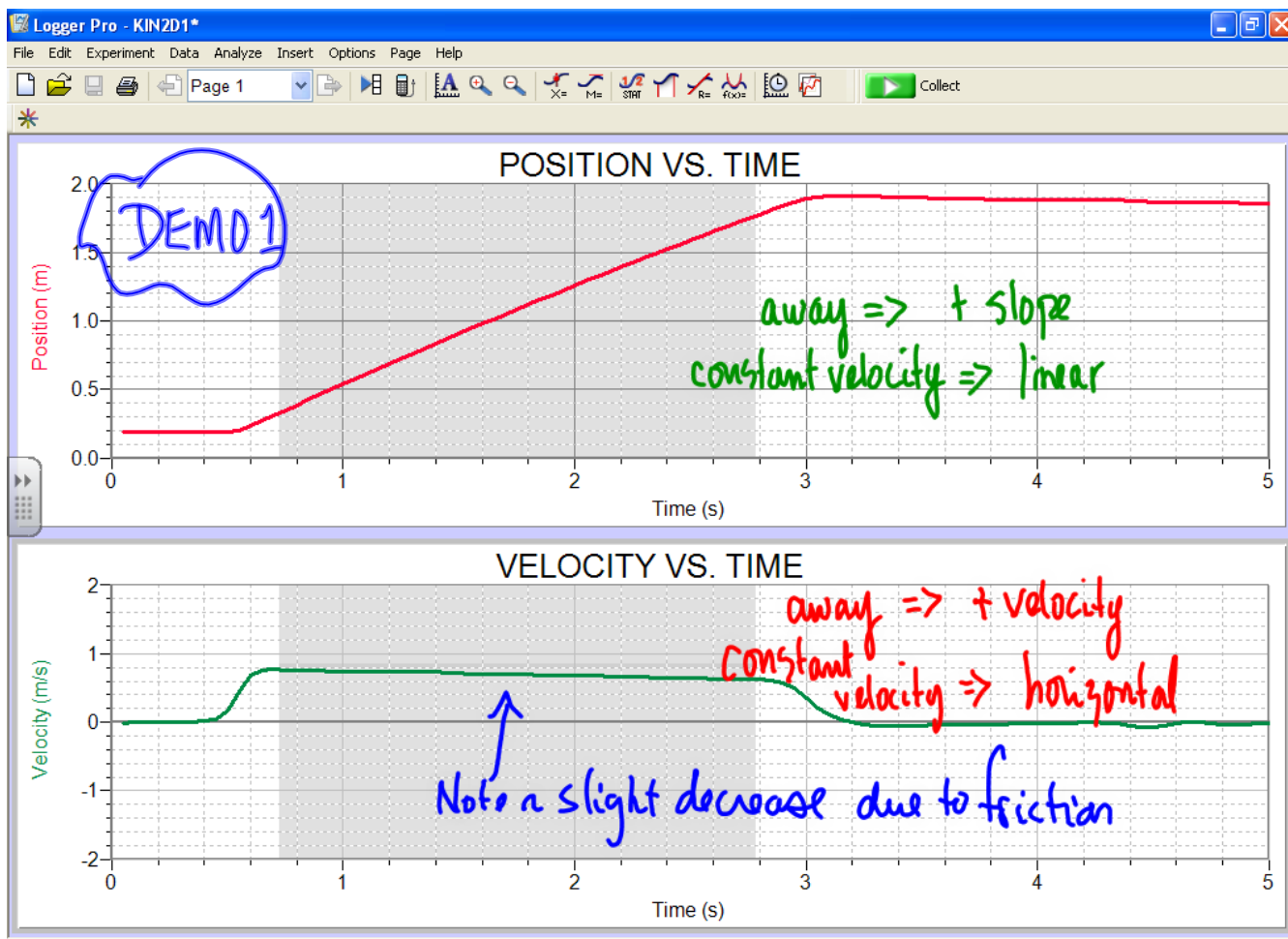


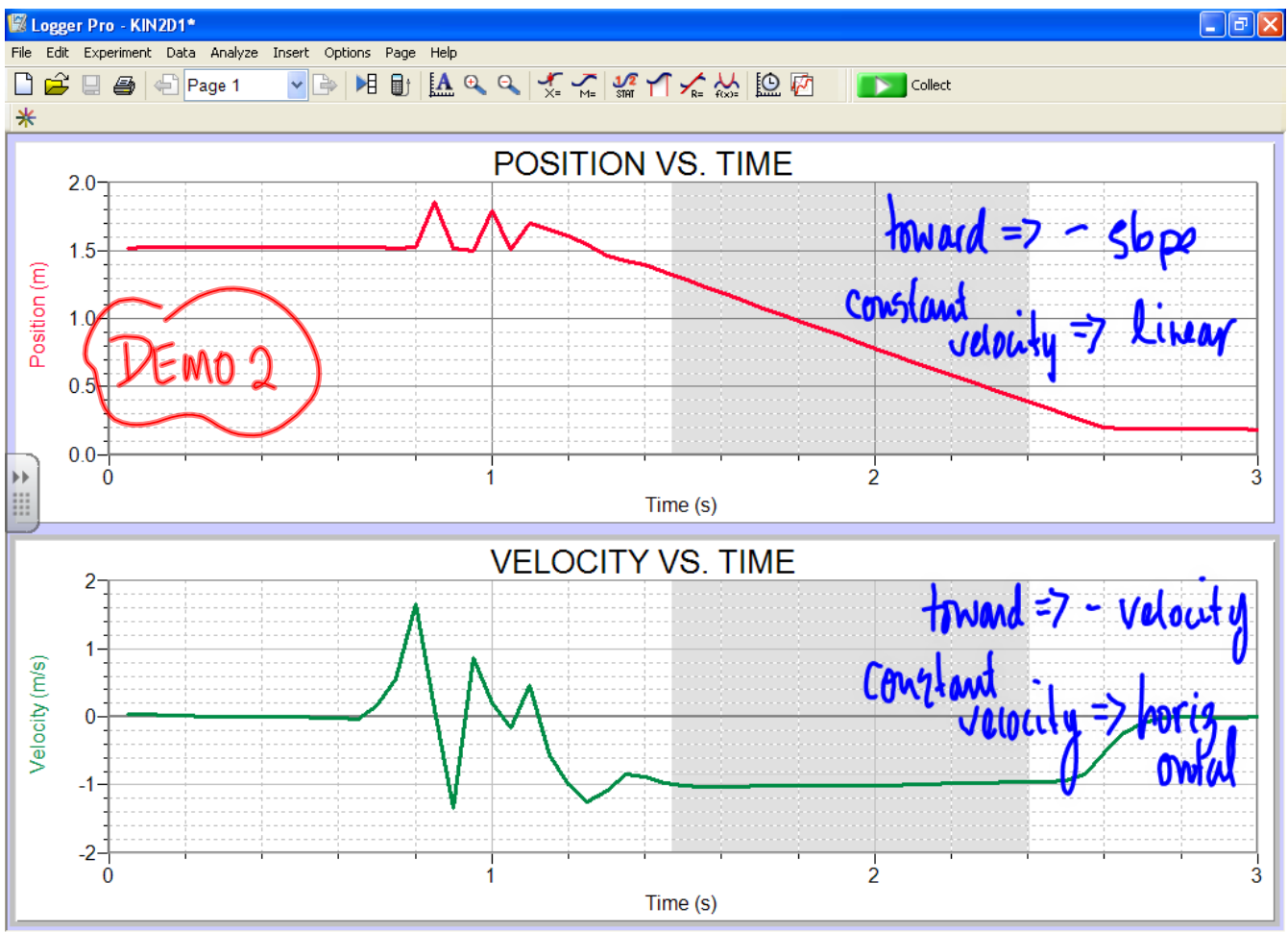
10. The object moves away from the origin at a steady (constant) velocity for 10 seconds, reverses direction and moves back toward the origin at the same speed for 10 seconds.

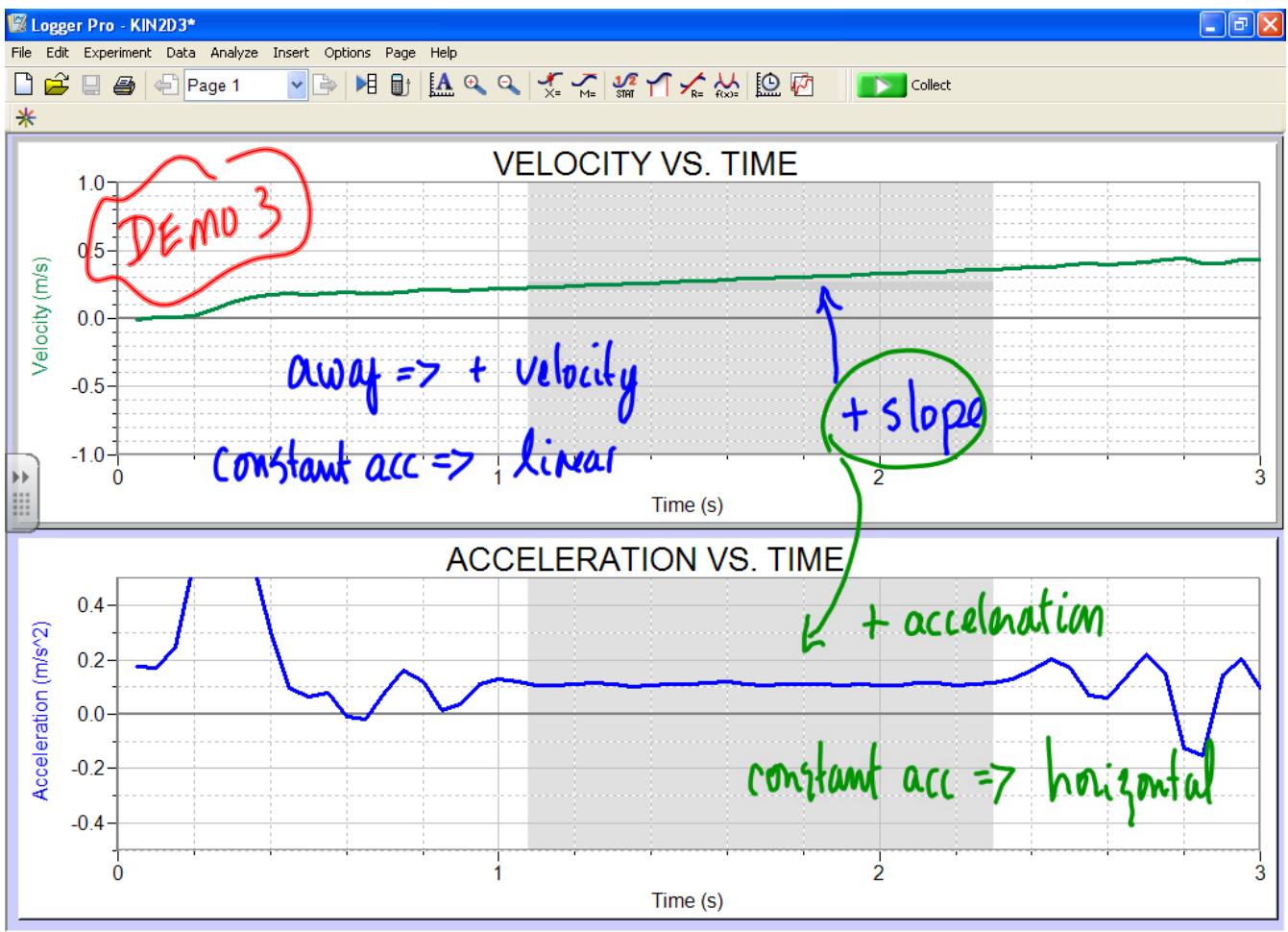


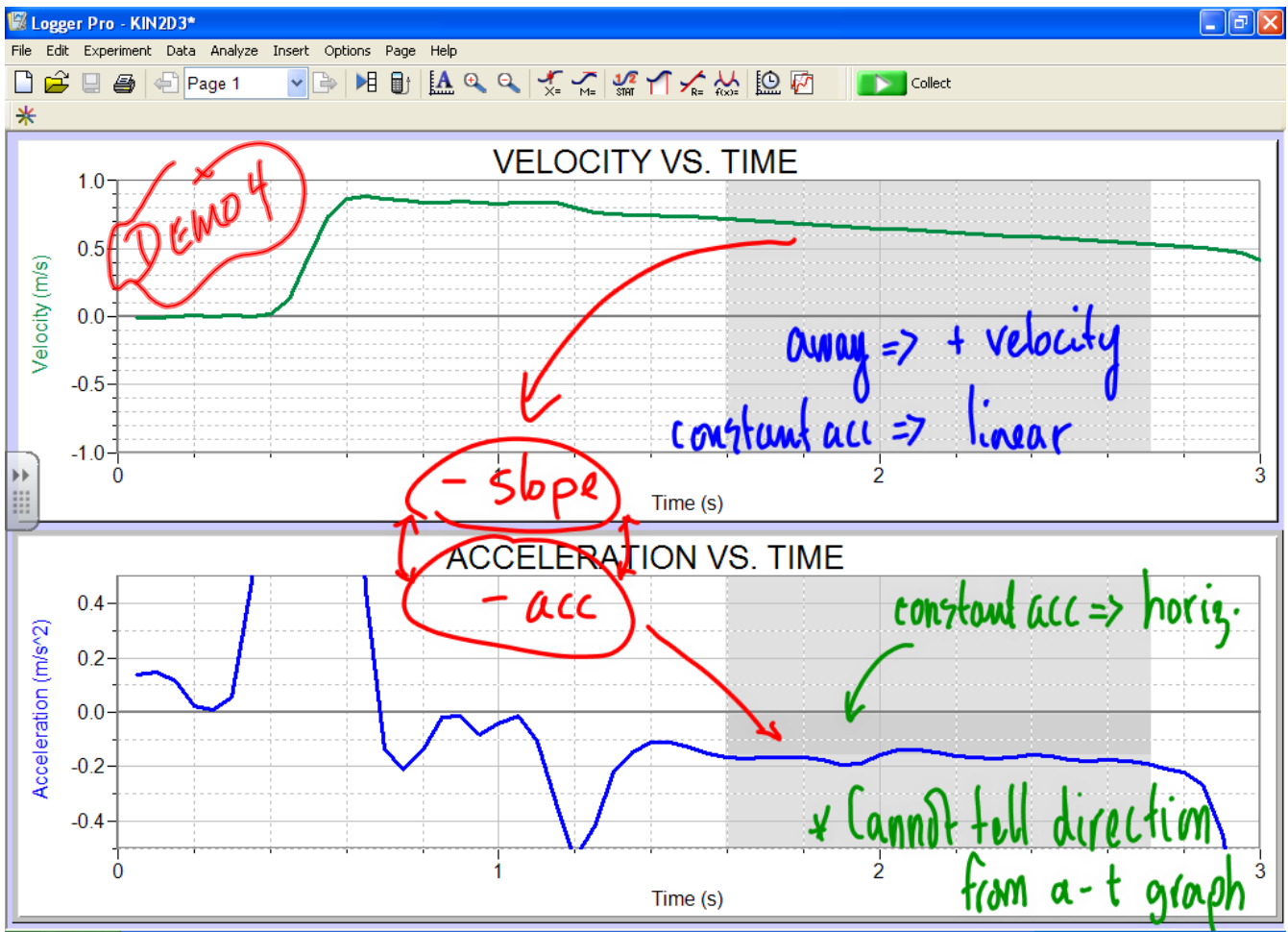
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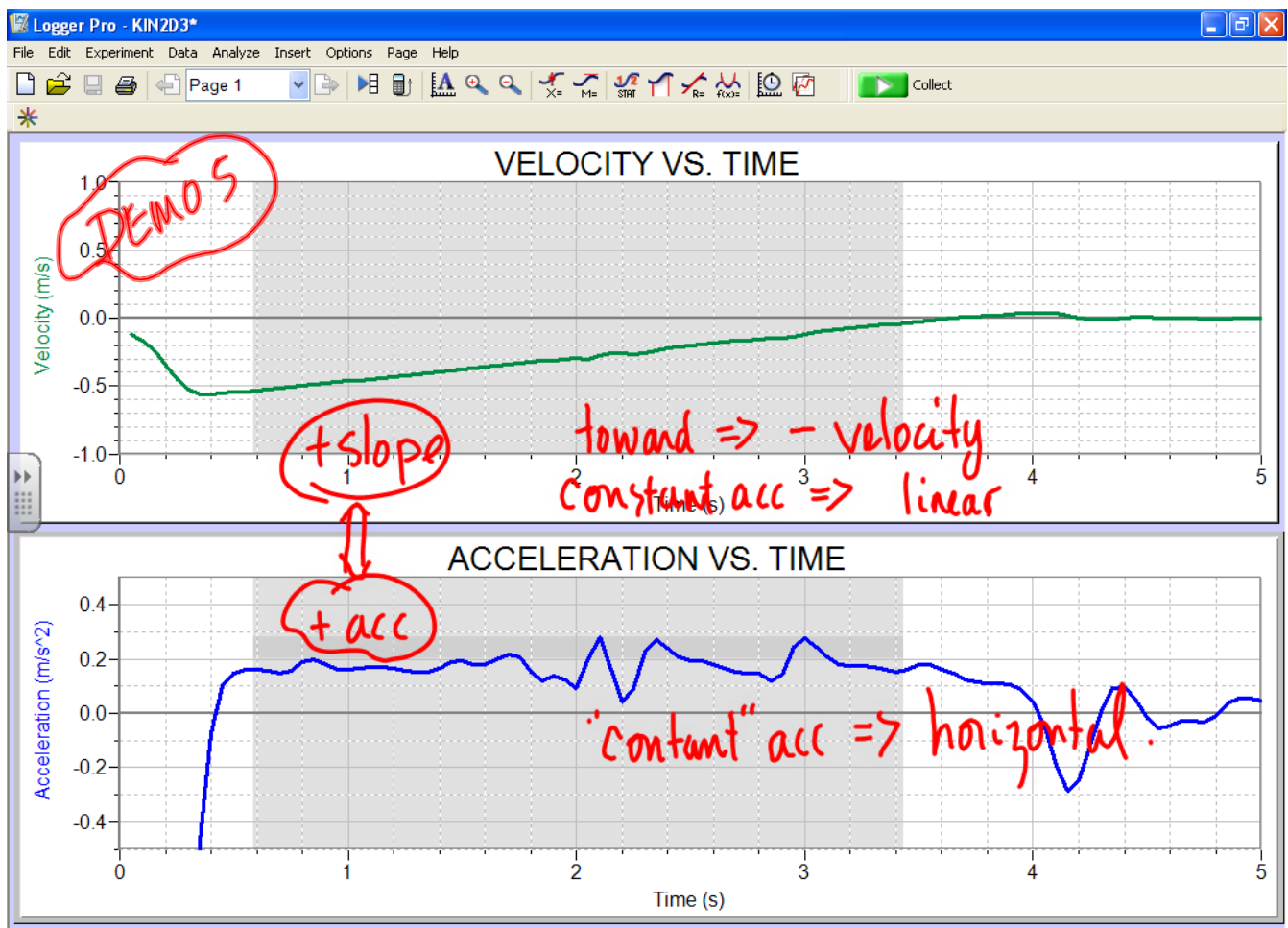




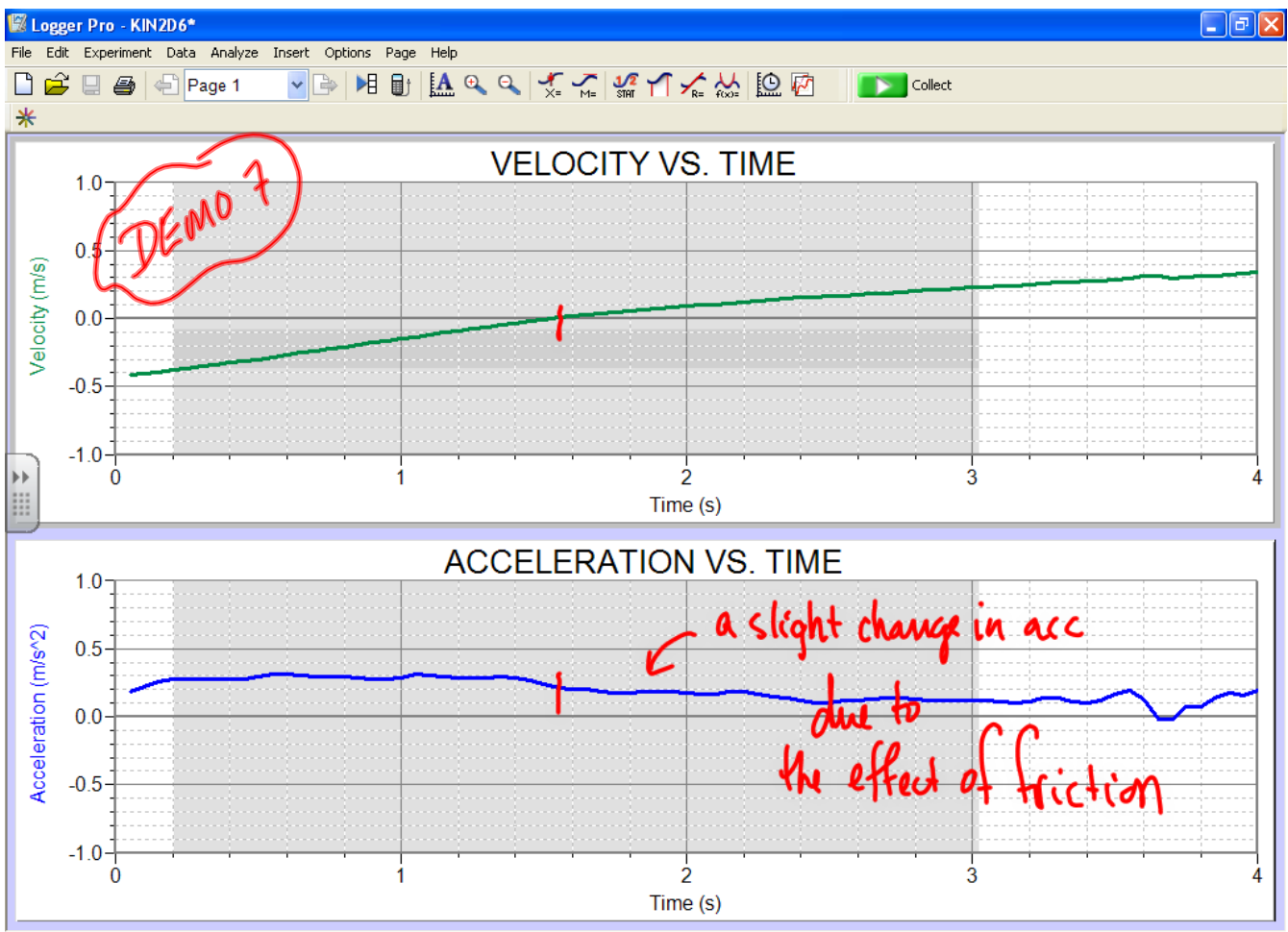


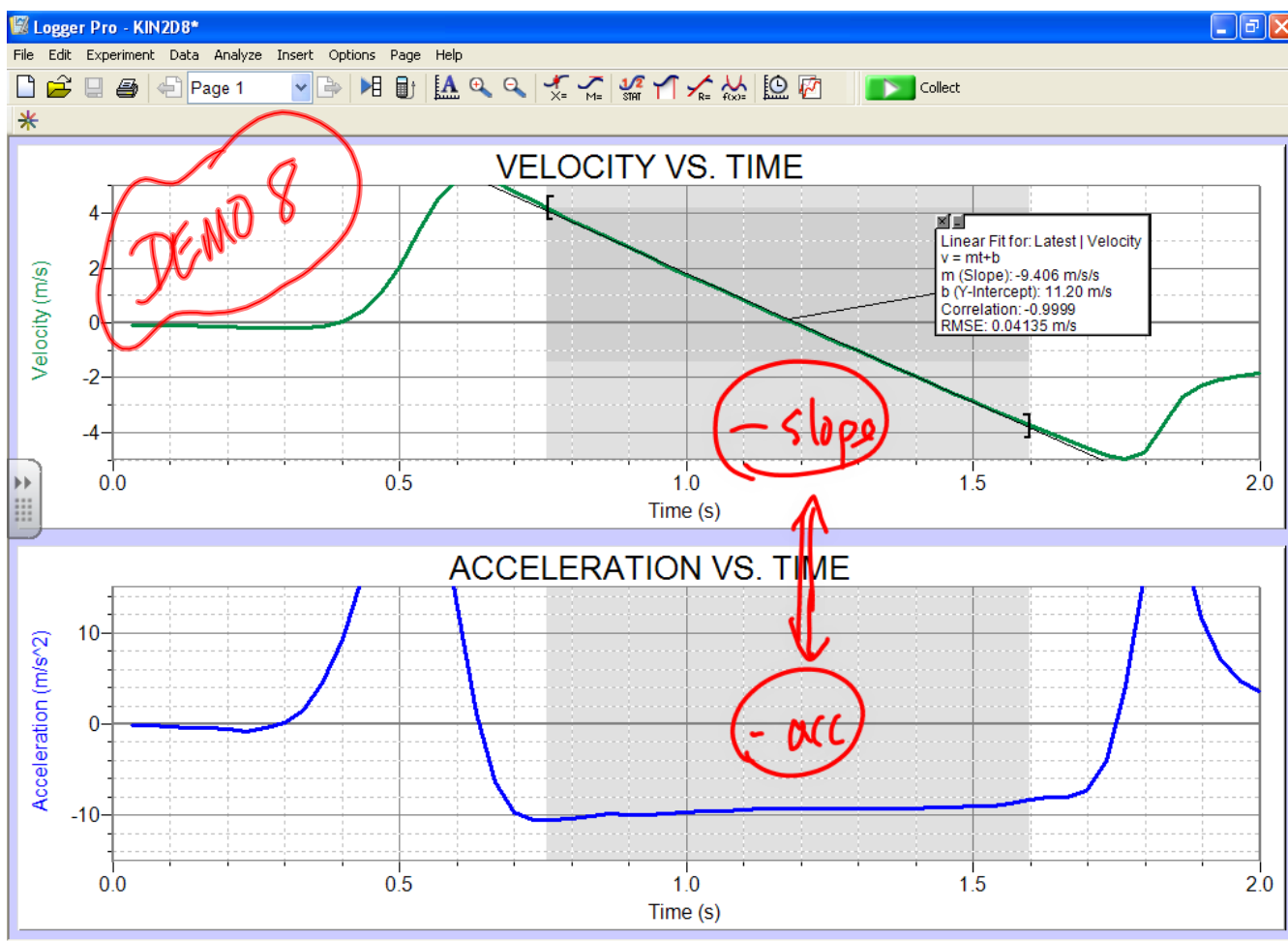




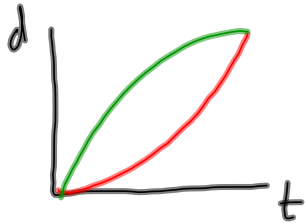




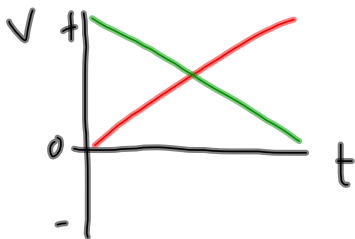




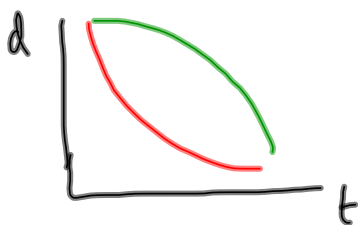
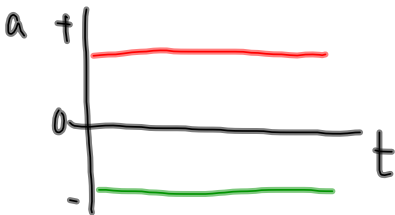
Motion Graphs + Acceleration



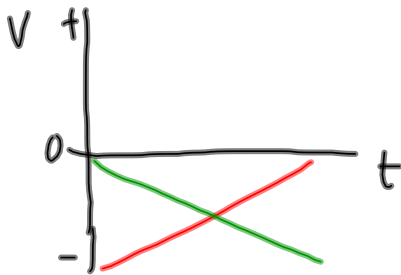
- going away / speeding up steadily
 (+) (+)
 + acc



- going away / slowing down steadily
 (+) (-)
 - acc



- going towards / slowing down steadily
 (-) (-)
 + acc



- going towards / speeding up steadily
 (-) (+)
 - acc

