

CAP Review

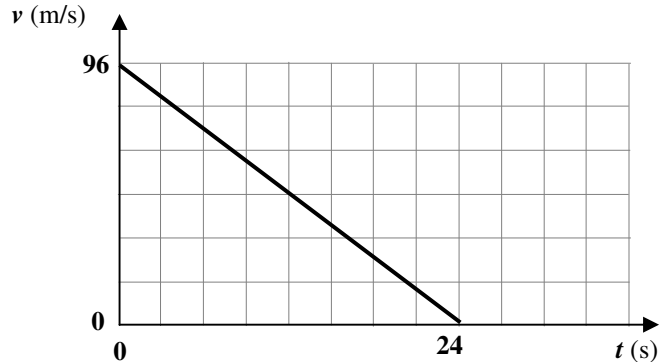
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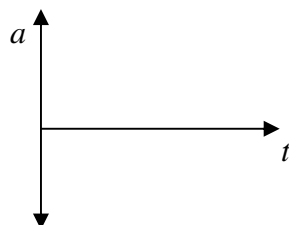
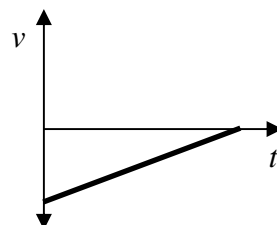
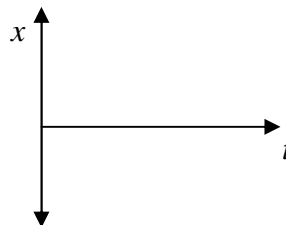
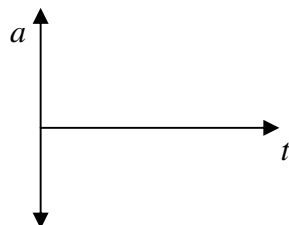
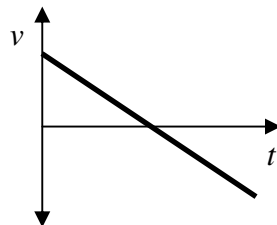
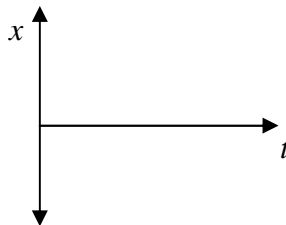
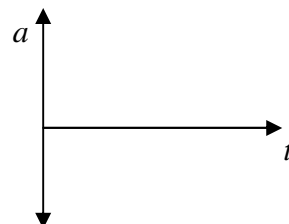
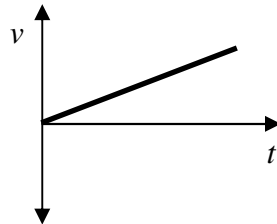
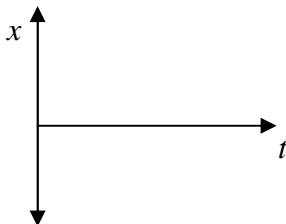
Remember to show your work and include units.

Use the graph below to answer the questions that follow.

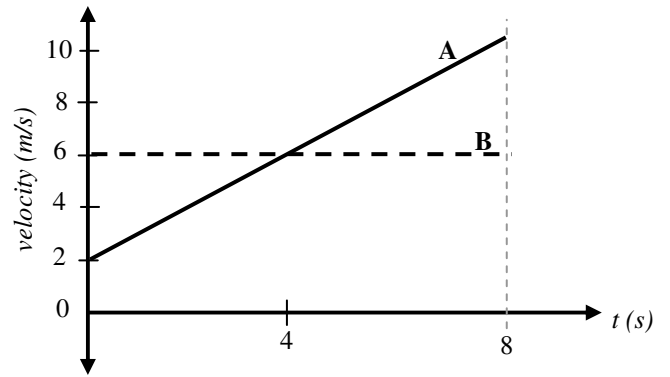
Based upon this *velocity-vs.-time* graph, determine the following:



1. Initial velocity, v_i : _____
2. Final velocity, v_f : _____
3. Average velocity: _____
4. Displacement, Δx : _____
5. Acceleration, a : _____
6. Specific equation: _____
7. General equation: _____
8. Based upon the above graph, describe the object's motion (be sure to explain its speed and acceleration).
9. Give an example of a real-world situation that could represent the motion described by the above graph.
10. Consider the following sets of *position-vs.-time*, *velocity-vs.-time*, and *acceleration-vs.-time* graphs. Draw the missing graphs based on the graph that is given.



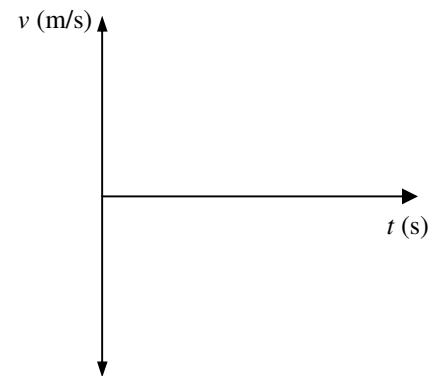
11. Compare the kinematic behavior of objects A and B as represented in the *velocity-vs.-time* graph to the right.



	Comparison	Explain how you know.
a. Displacement, Δx , from 0 to 4 s	A > B, A < B, or A = B	
b. Displacement, Δx , from 0 to 8 s	A > B, A < B, or A = B	
b. Velocity, v , at $t = 6$ s	A > B, A < B, or A = B	
c. Acceleration, a , at $t = 6$ s	A > B, A < B, or A = B	

12. The Tower of Terror ride at Disney's California Adventure Park raises high off the ground and then drops you for 3.50 seconds. Assume no friction or air resistance.

- Sketch the *velocity-vs.-time* for this motion.
- How fast would you be going after dropping for 3.50 seconds?
- How far did you drop during this time interval?



13. A tennis ball is tossed straight up into the air and returns to its starting position 2.0 seconds later.

- Sketch the *velocity-vs.-time* for this motion.
- At what speed was the ball initially tossed?
- How high did the ball go?

