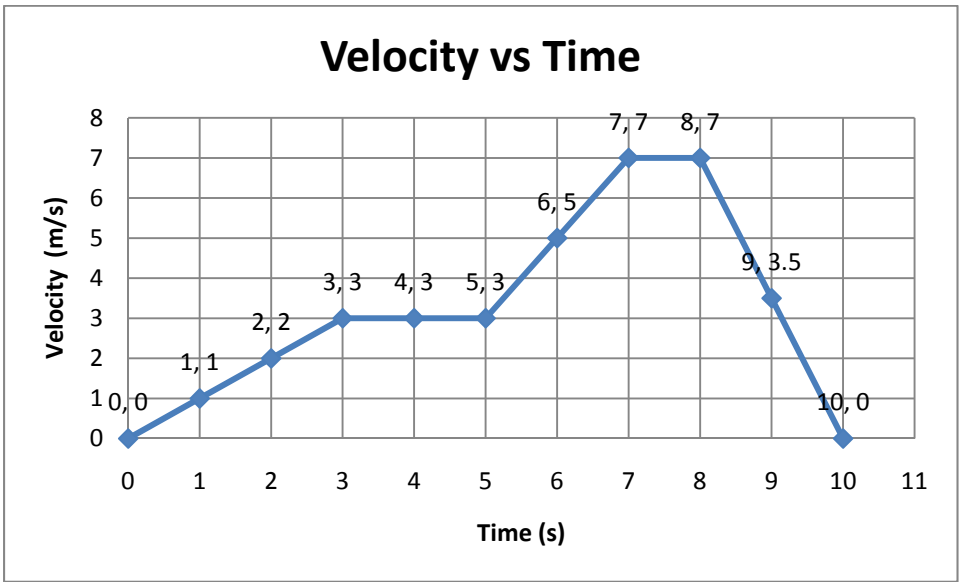
Name:_____ Date:_____

Mr. Croom's Physics Chapter 2: One Dimensional Motion

Graphical Interpretation of Instantaneous and Average Acceleration

Explain what happens in each of these graphs. Make sure to record the change in displacement, change in velocity, and acceleration for each time interval.

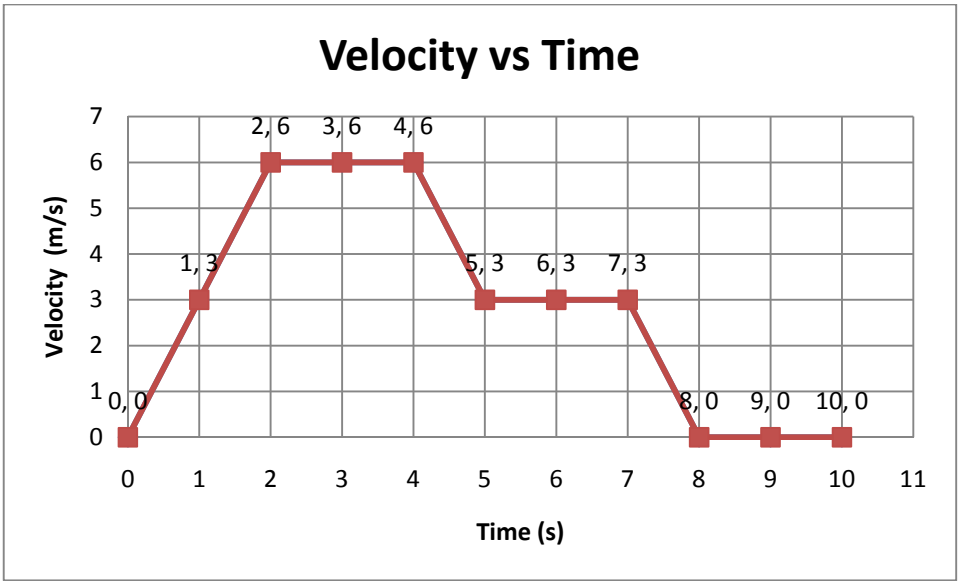
1.



Solve for the missing blocks:

Time	0 to 3 seconds	3 to 5 seconds	5 to 7 seconds	7 to 8 seconds	8-10 seconds
Velocity					
Average Acceleration					

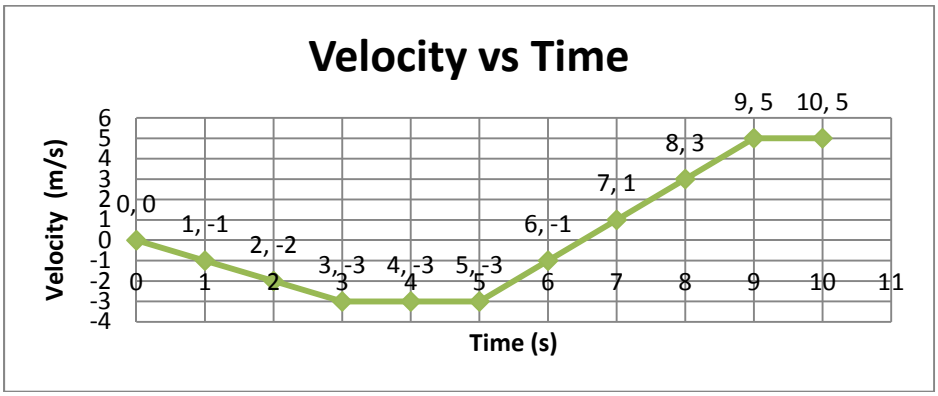
2.



Solve for the missing blocks:

Time	0 to 2 seconds	2 to 4 seconds	4 to 5 seconds	5 to 7 seconds	7-8 seconds
Velocity					
Average Acceleration					
Amount Displaced During Time Interval					

3.



What is the total displacement of the object? _____

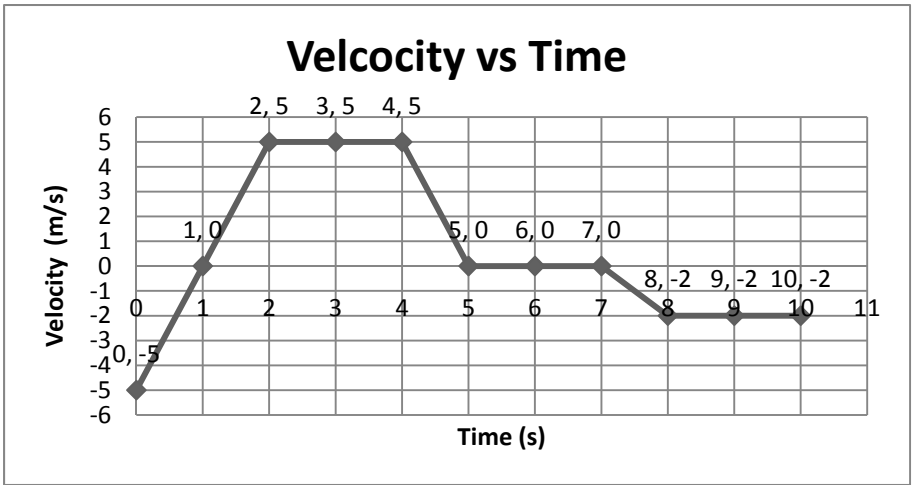
Where is the greatest Acceleration? _____

Where is the acceleration zero? _____

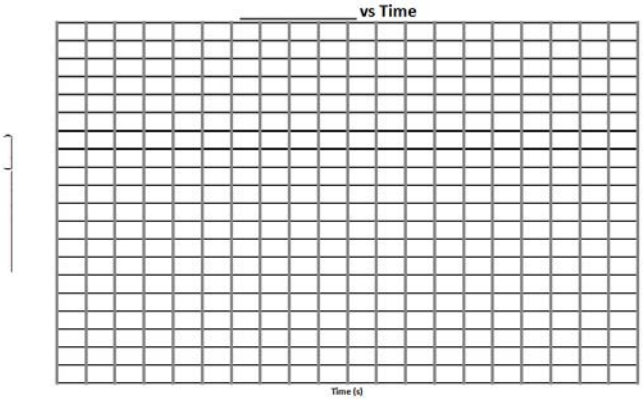
What is the average acceleration between 1 and 7 seconds? _____

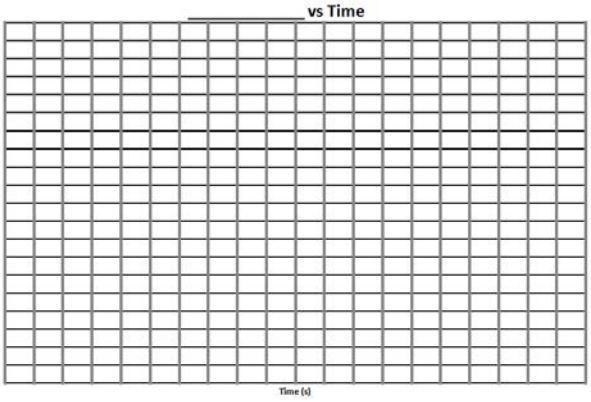
What is the instantaneous acceleration at 8 seconds? _____

4.

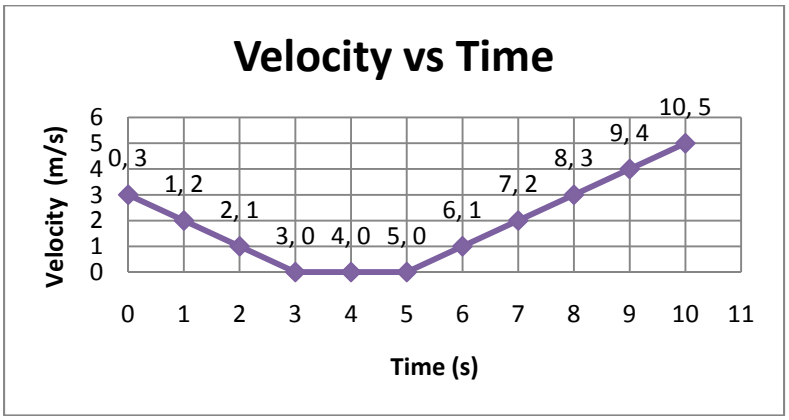


Sketch the displacement graph **Sketch the acceleration graph.**

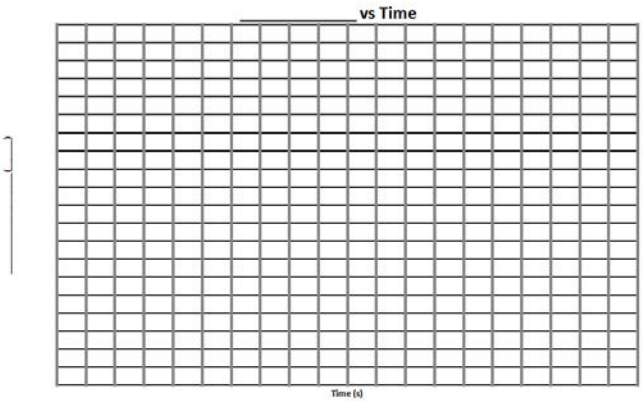




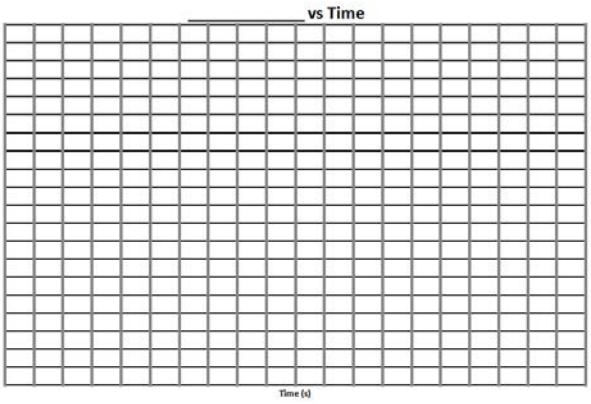
5.



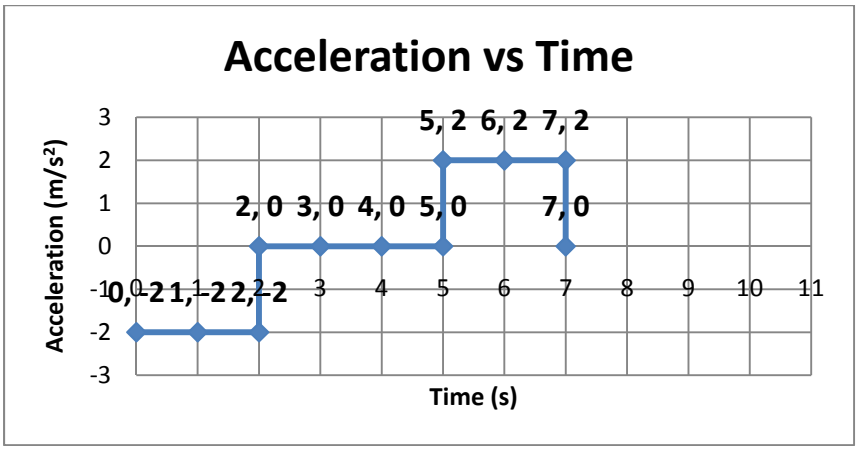
Sketch the displacement graph



Sketch the acceleration graph.



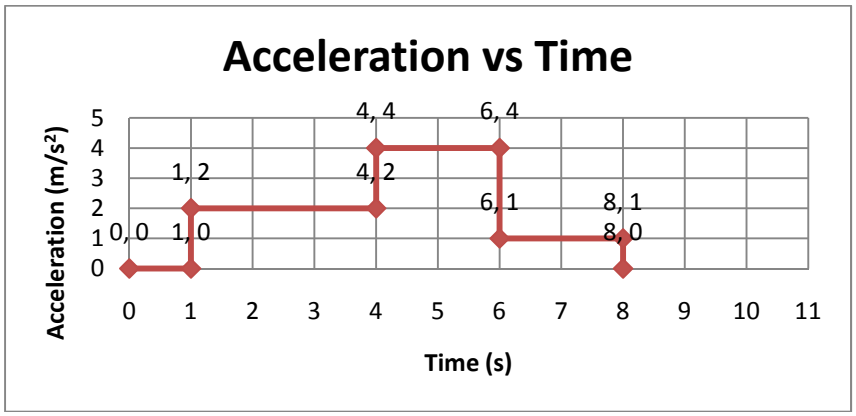
6.



Solve for the missing blocks:

Time	0 to 2 seconds	2 to 5 seconds	5 to 7 seconds	0 to 7 seconds
Acceleration				
Final Velocity				

7.



Sketch the velocity graph

_____ vs Time

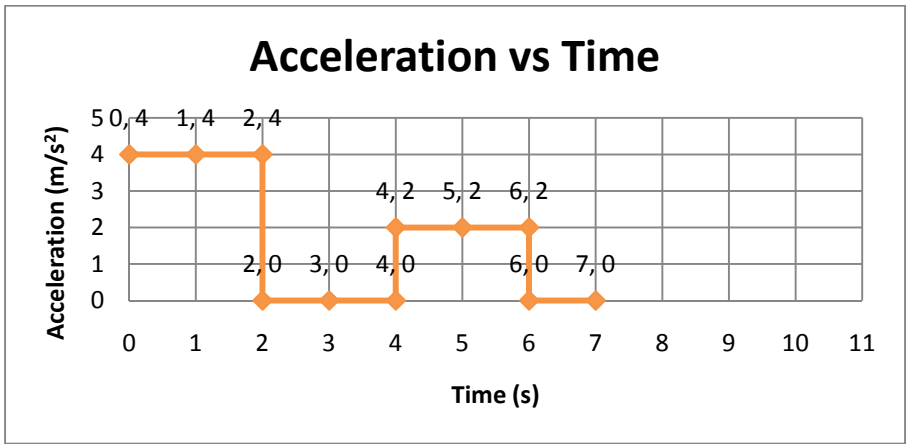
Time (s)

Sketch the displacement graph.

_____ vs Time

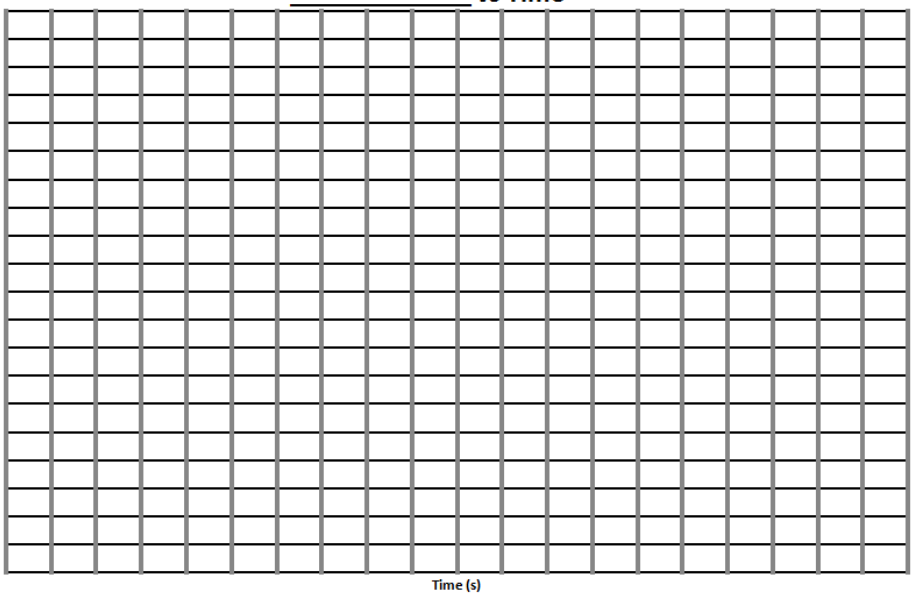
Time (s)

8.



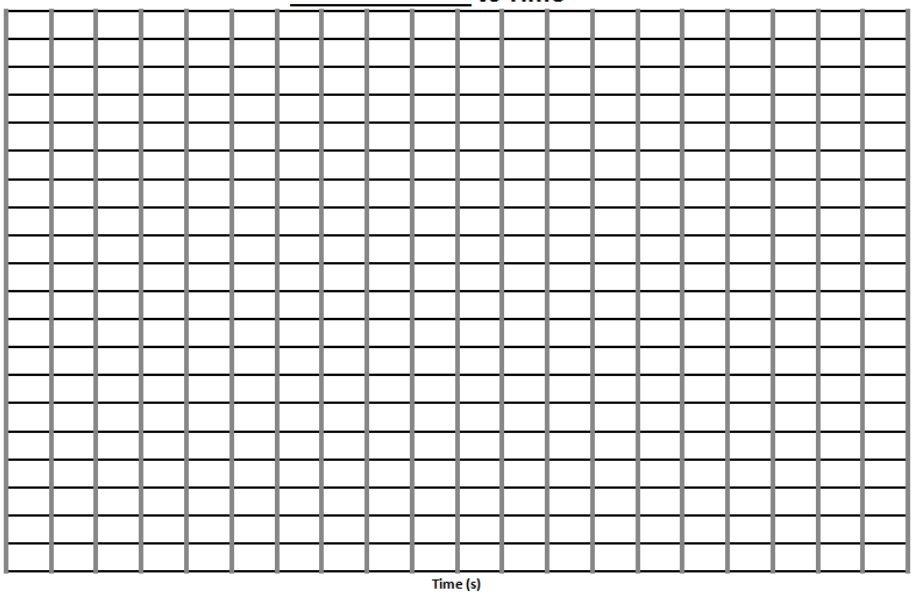
Sketch the velocity graph

_____ vs Time

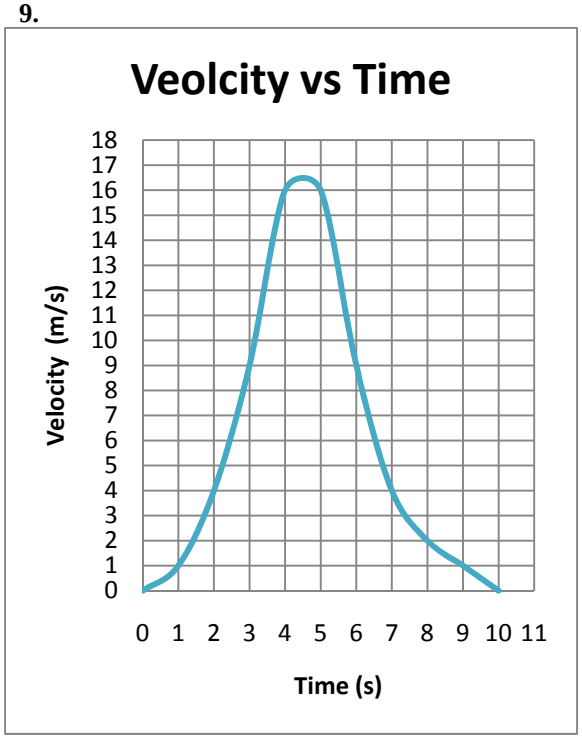


Sketch the displacement graph.

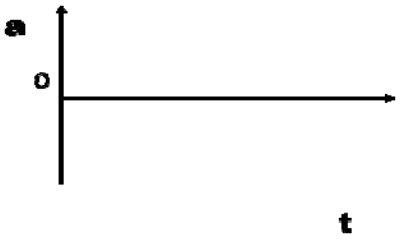
_____ vs Time



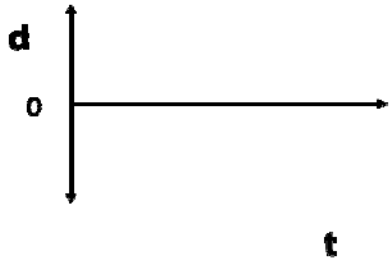
9.



- What is the approximate displacement for this object?
- What is the instantaneous acceleration at t=3?
- What is the instantaneous acceleration at t=4.5?
- Draw a rough sketch of the acceleration vs time graph that goes with this?



- What would the displacement vs time graph look like? Sketch a rough copy of it



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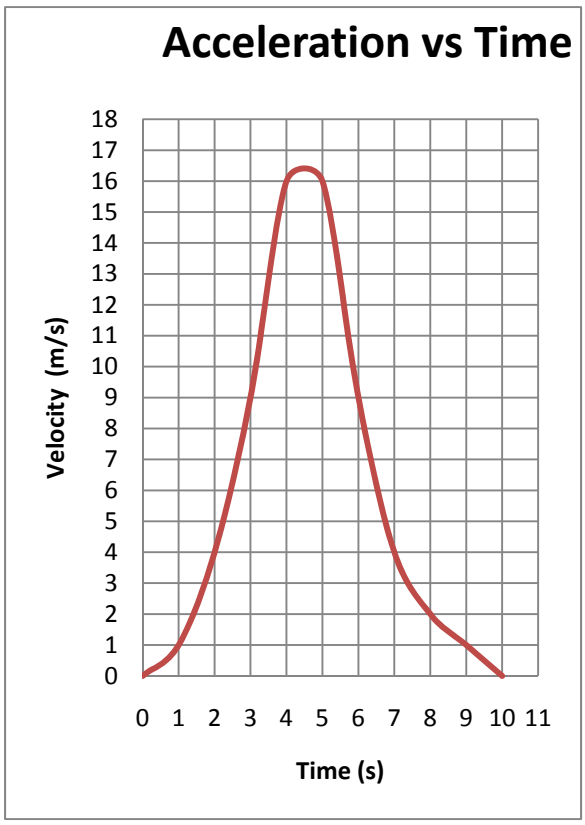
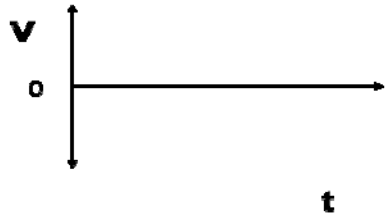
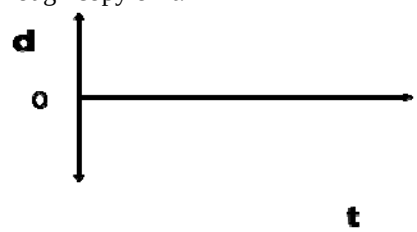
10.



- What is the approximate final velocity for this object?
- What is the instantaneous acceleration at t=4?
- What is the instantaneous acceleration at t=6?
- Draw a rough sketch of the velocity vs time graph that goes with this?



- What would the displacement vs time graph look like? Sketch a rough copy of it.



1. What is the difference between instantaneous velocity and average velocity?

2. What speed does the speedometer of a car read, instantaneous or average?

3. Distinguish between speed and velocity.

4. Why does the unit of time enter twice in the unit of acceleration?

5. Define displacement. Give an example.

6. Distinguish velocity and acceleration.

7. Is a fine for speeding based on one's average speed or instantaneous speed?