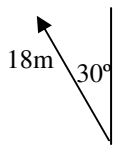
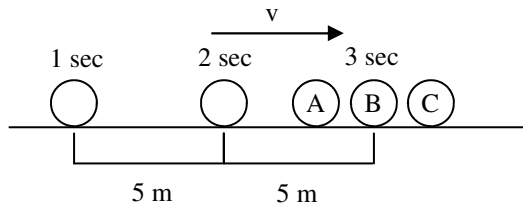


PreAP Linear Motion 14

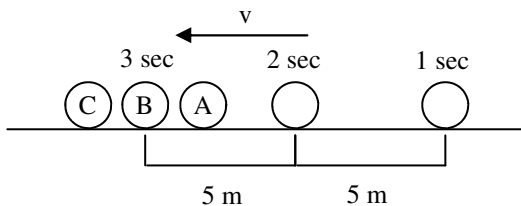


- * What direction will you use for the 18m displacement?
 - * Calculate its x and y components.

- A ball is thrown into the air.
 - On its way up, is its velocity becoming more or less positive?
 - Is that a positive or negative acceleration?
 - On its way down, is its velocity becoming more or less positive?
 - Is that a positive or negative acceleration?



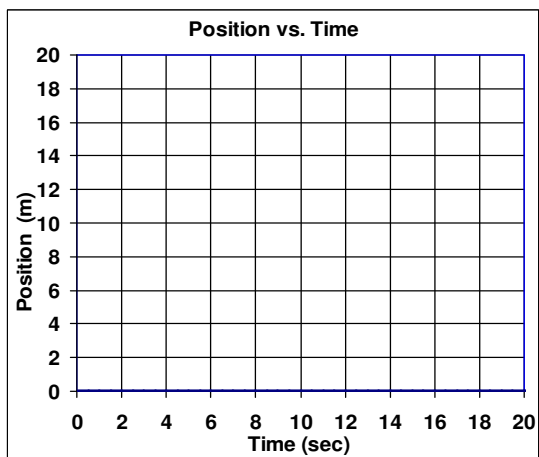
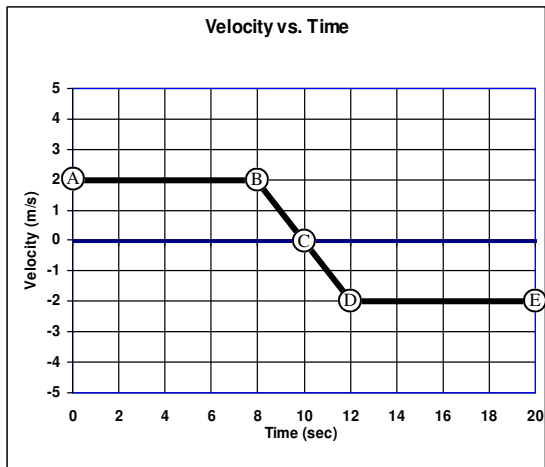
- The graphic shows an object moving to the right. A, B, and C show where it *COULD* be after 3 seconds. As always right is +. Which position shows the object:
 - with a positive acceleration?
 - with a negative acceleration?
 - with no acceleration?



- Now the object is moving to the left. Again, A, B, and C show where it *COULD* be after 3 seconds. Which position shows the object:
 - with a positive acceleration?
 - with a negative acceleration?
 - with no acceleration?

As we discovered in the last homework and in class, the area between the line and the x-axis is the displacement of the object.

- Use the graphs at the left for the following.
 - From A to B calculate the displacement (area) of the object.
 - * From B to C calculate the displacement (area of the triangle).
 - * What is the total from A to C?
 - * Calculate the displacement from C to D. It will be negative.
 - Calculate the displacement from D to E (also negative).



- * What is the total from C to E?
- Fill in the table, starting at 0 m and adding and subtracting the displacements you found above.

Follow my instructions carefully.
- Draw dots to show where the object is on the position graph.
- You should know that for two of the times the object was moving at constant speed. Use straight lines.
- For the acceleration portion make sure to pass thru the dots and use a curve.

Point	Time	Position
A	0 sec	0 m
B	8 sec	
C		
D		
E		

6. * Jar Jar Binks is sitting on the edge of a 25 m tall cliff. Suddenly a group of devote Star Wars fans sees him and does what any other true Star Wars fans would, they push him off the cliff. (“*Meesa fallin!*”) How long does it take Jar Jar to hit the ground and how loud are the fans applauding?

- 1A) 120 degrees 1B) $x = -9\text{m}$
5B) 2 m which is $\frac{1}{2}bh = \frac{1}{2}(2)2$
5C) 18 m 5D) -2m 5F) -18 m
6) remember that $v_i = 0$ and $\Delta y = -25\text{ m}$. $t = 2.26\text{ sec}$