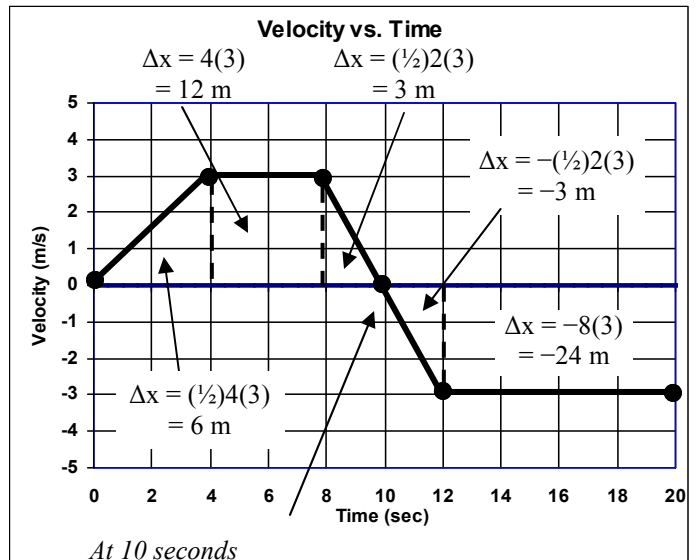


# Integration (Reverse Slope)

**Step 1:** Calculate displacement between each major point on the graph (including any point of zero velocity). The displacement can be easily calculate by finding the area under the curve of each portion of the graph.

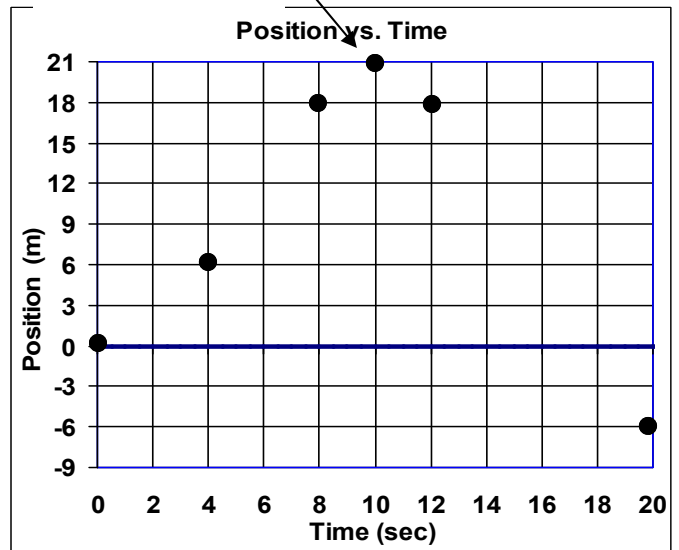
*Hint:* You can't know starting positions, just displacements. To be sure not to go off the position graph, find the  $\Delta x_{total}$ . Then we know that our object goes +21 m up and ends 6 m below the initial position on the graph.

Totals:  
 $6 + 12 + 3 = 21$   
 $-3 -24 = -27$   
 Total = -6 m



**Step 2:** Draw dots to show the major points calculated from the previous graph. The graph will go thru these points. Also, you can choose any starting position. You can

Afterwards, double check your points with your totals. Is your top point at the maximum displacement? Is the difference between your first and last points equal your total displacement?



**Step 3:** Draw the shape of the motion being sure to go thru each point. You must know the basic shapes. (see below).

