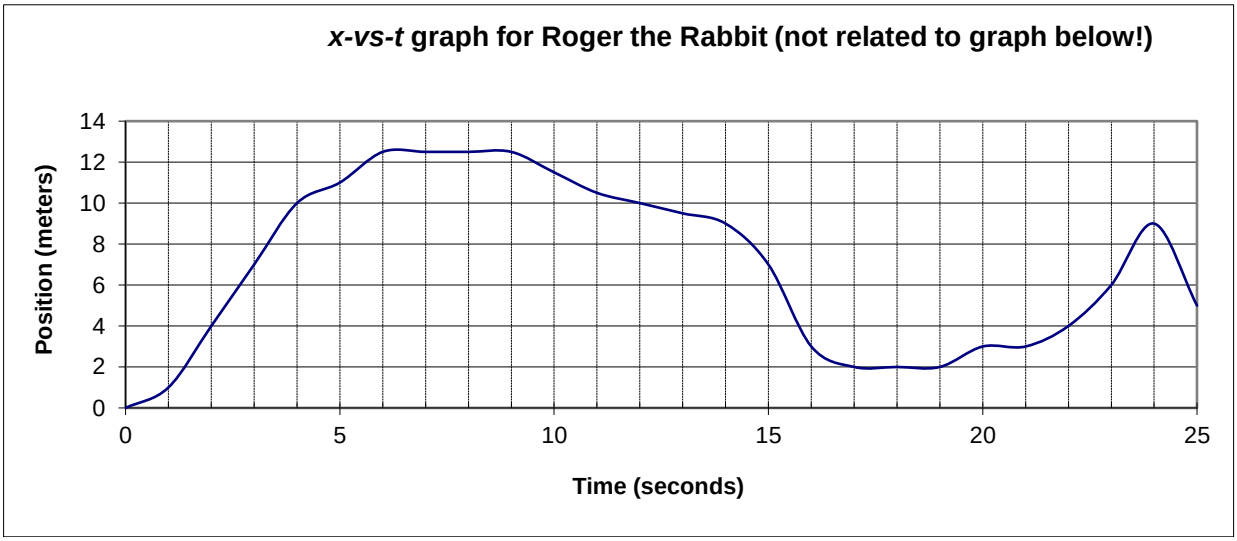
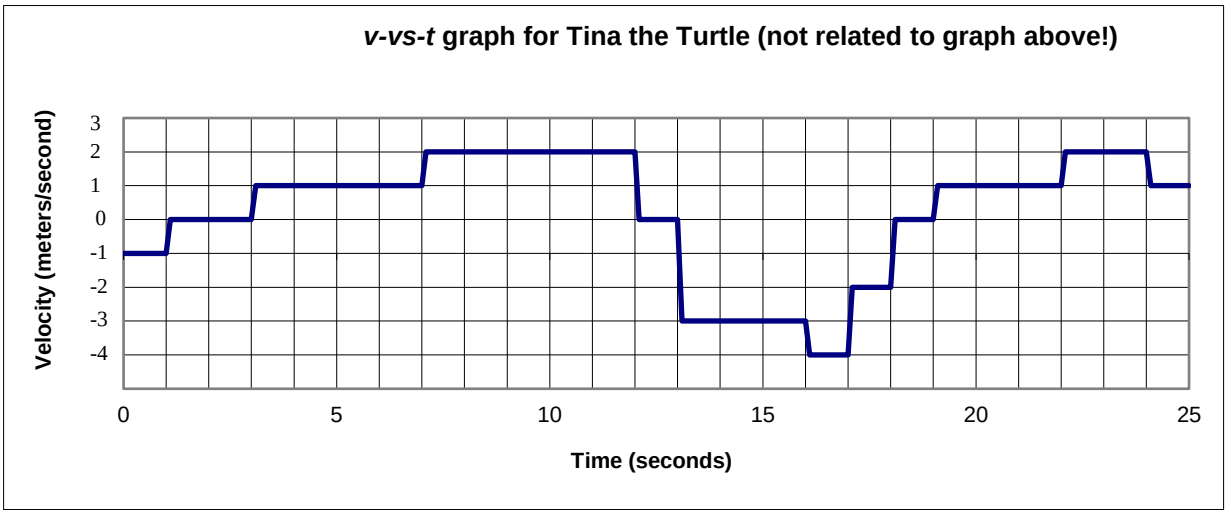
Motion Graph Practice

Physics

Please note – these are extremely complicated, detailed graphs that are far beyond what I would ask you to do on a test. I would suggest breaking each graph into 5 (or more) parts – from 0-5 seconds, from 5-10 seconds, etc. That gives you more practice without being overwhelming. This is an optional assignment, so you are not required to do all (or any) of it. It's also a great idea to use graph paper so your graphs and numbers are as easy to see as possible.



1. Redraw this graph with (relatively) straight lines to make your job easier!
2. Draw the *v-vs-t* graph that would correspond to this *x-vs-t* graph.
3. Find the **average velocity** between times 7s and 15s (hint - $\bar{v} = \frac{\Delta x}{\Delta t}$).
4. At what times, if any, is Roger motionless?



5. Redraw this graph with (relatively) straight lines to make your job easier!
6. Draw the *x-vs-t* graph that would correspond to this *v-vs-t* graph.
7. Using the area between the graph and the *t* axis, find Tina's displacement between t = 5 s and t = 14 s.
8. At what times, if any, is Tina motionless?