Motion Graphs and PhET Simulation

1. Go to: http://phet.colorado.edu/en/simulation/moving-man and click the "Run Now" button.
2. In the window that opens, click the tab that allows the man and the motion charts to be seen.
3. In the boxes on the right hand side of the screen, enter in the data for each scenario. For each set of initial values, draw the graphs for x vs. t, v vs. t, and a vs. t. Be clear in your graphs if a line is straight or curved (this will be very important).
4. If your man runs into a wall, do not include the portion of the graphs that correspond to impact (they will look like abrupt changes).

Initial Position (m)	Initial Velocity (m/s)	Acceleration (m/s^2)	x vs t	v vs. t	a vs. t
2	0	0			
-10	1	0			
10	-1	0			
-10	1	2			

10	-7	2			
10	-1	-2			
10	-7	2			

Questions:

1. What are some consistent features of each type of graph (x, v, and a)?

2. What does it mean for a velocity graph to have a line that passes from a negative value to a positive value or vice versa?

3. Why is it important to keep track of negative and positive signs on the velocity and acceleration?