

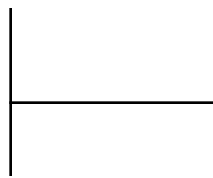
From the class discussion, sketch the following simple natural relationship graphs for position vs. time and write the general equation that goes with each.

pos. inverse



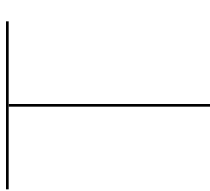
eq: _____

pos. zero order



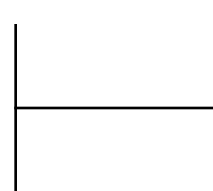
eq: _____

pos. 1st order



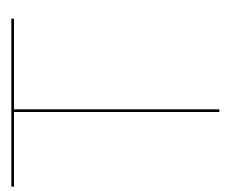
eq: _____

pos. 2nd order



eq: _____

pos. 3rd order



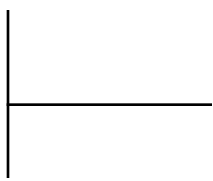
eq: _____

neg. inverse



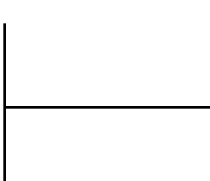
eq: _____

neg. zero order



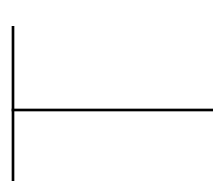
eq: _____

neg. 1st order



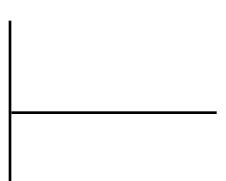
eq: _____

neg. 2nd order



eq: _____

neg. 3rd order



eq: _____

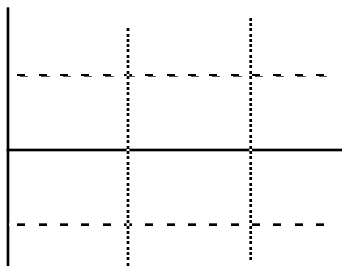
Remembering that "Nature paints with a broad brush", look at the data points you drew on the graph on the front -- which one of these thirteen simple natural relationships represents the position of a ball rolling down an incline vs. time

By the way, what do you think the graph would look like and what might be the equation if the ball started off at the bottom of the ramp with a velocity and proceeded up the ramp slowing down (due to gravity) until it came to a stop?

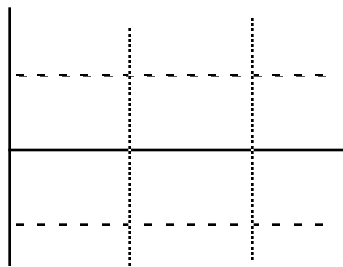
equation: _____



Simple Harmonic Motion



eq: _____



eq: _____

damping envelope



Various equations

Write discussed example of oscillations in your composition book..