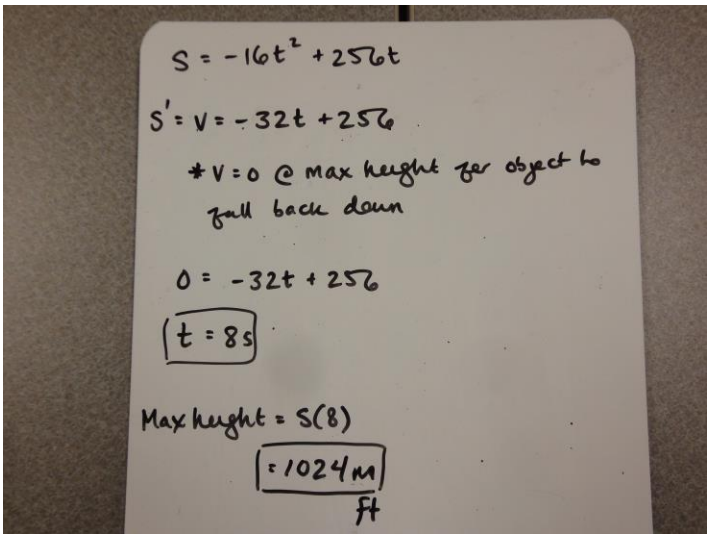
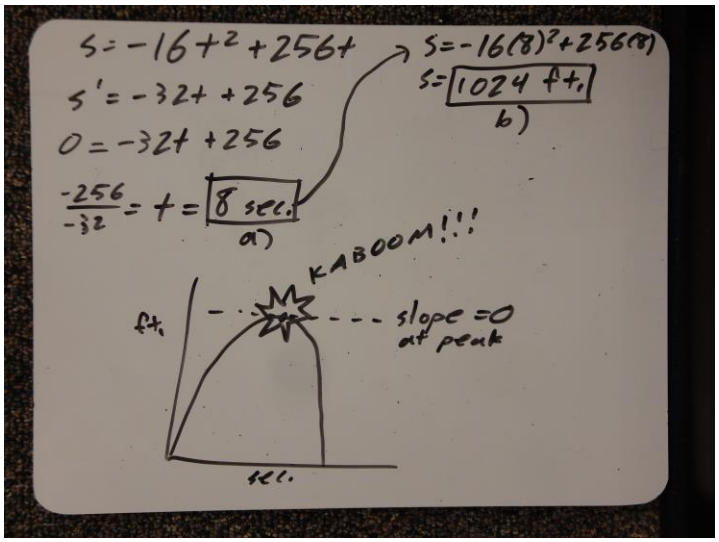
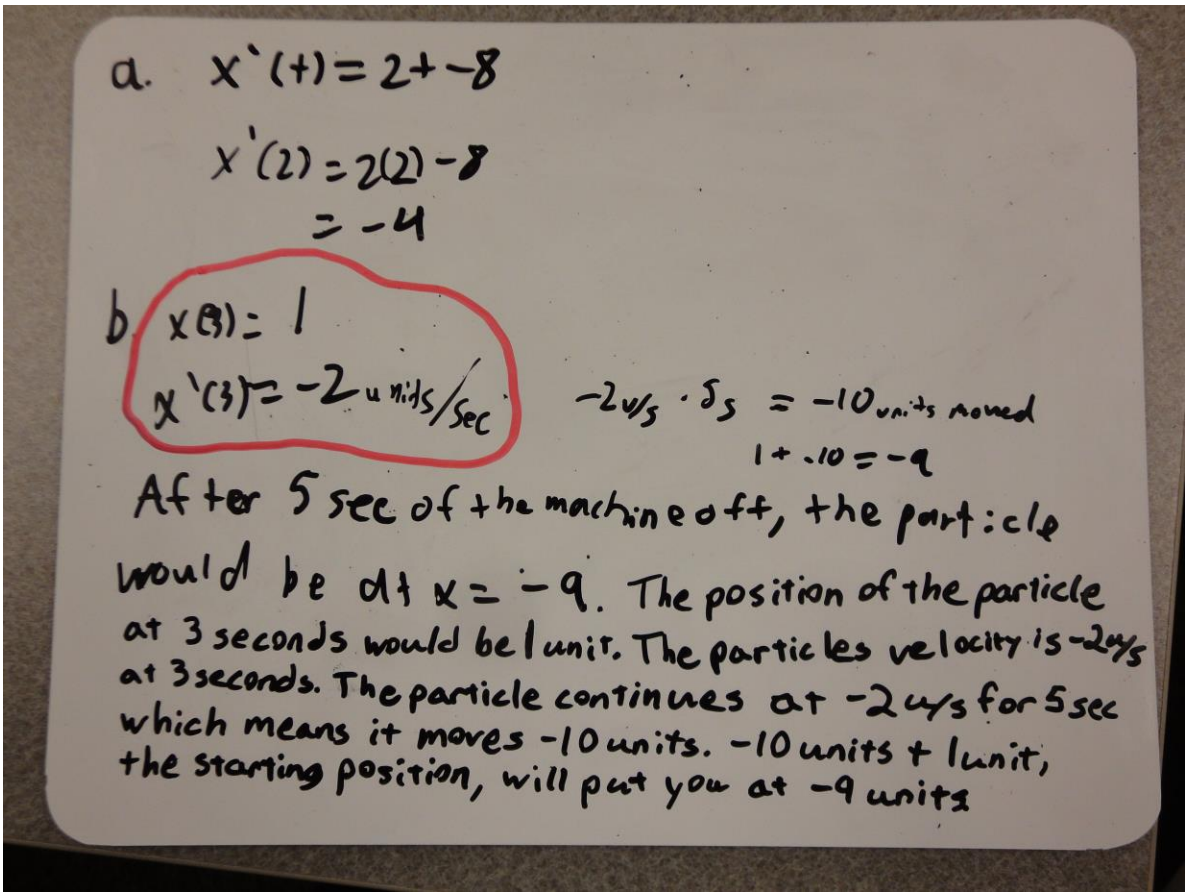
Fireworks Problem:



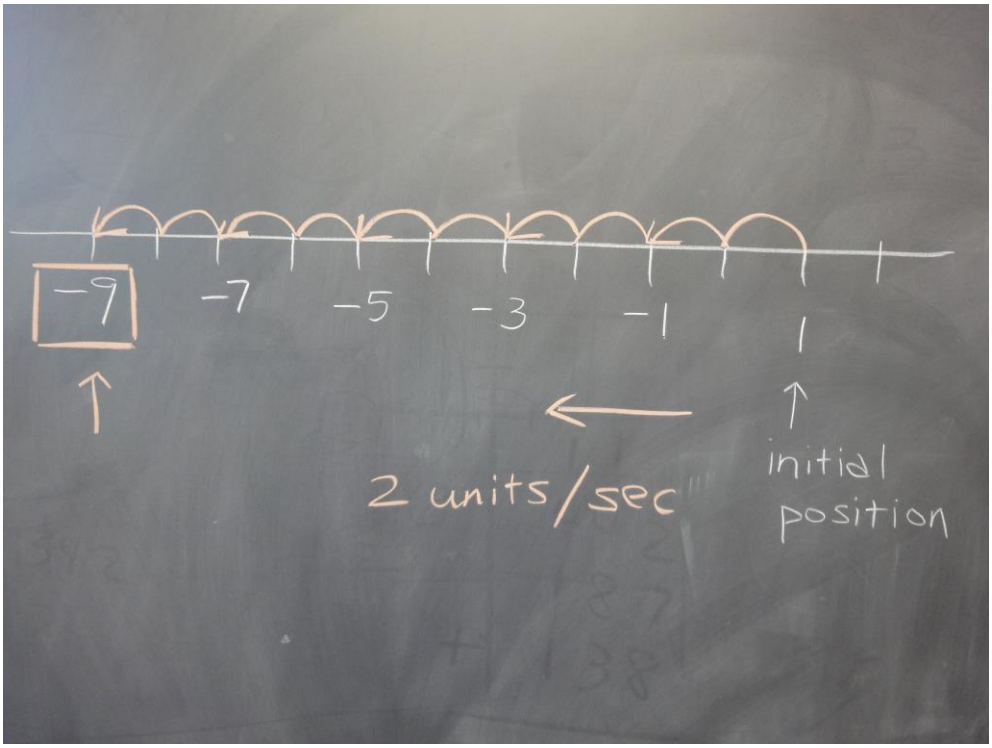


One note: Realize that the parabola shape is not a trajectory of the firework (but the graph does describe the height of the firework as a function of time).

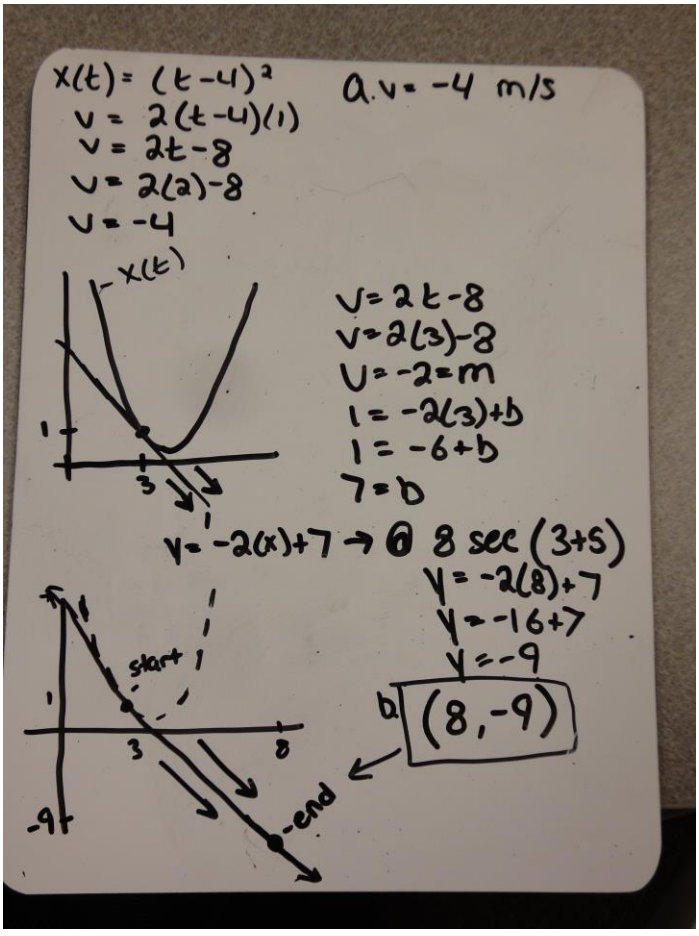
Machine stopping at $t = 3$ seconds. The board below explains how to solve this problem (in an excellent way!).



You can also solve this visually with a number line:



Or geometrically:



Or with some physics: