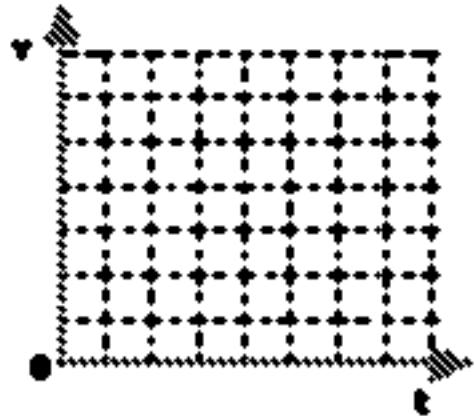


UNIT III: Worksheet 2a

This time, while cruising along a dark stretch of highway at 30 m/s (~65 mph), you see, at the fringes of your headlights, some roadkill on the highway. It takes you 0.5 s to react, then you apply the brakes and come to a stop 3.5s later. *Assume the clock starts the instant you see the hazard.*

1. Construct a motion map that represents the motion described above, including position, velocity, and acceleration. Hint: make the dots at 0.5s intervals.

2. Construct a **quantitatively accurate** v vs t graph to describe the situation.
3. On the v vs t graph at right, graphically represent the car's displacement during braking.
4. Utilizing the **graphical representation**, determine how far the car traveled during braking. (Please explain your problem solving method.)



5. In order to draw the a vs t graph, you need to determine the car's acceleration once the brakes were applied. Please do this, then sketch a **quantitatively accurate** a vs t graph

