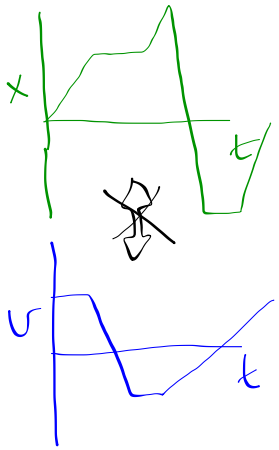
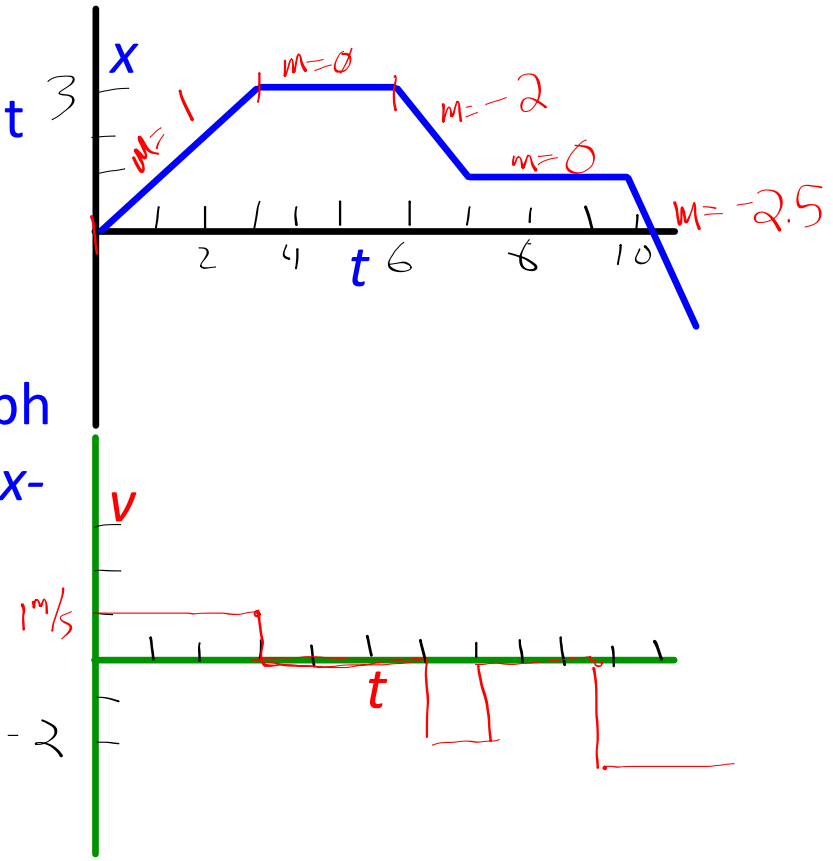
	Slope (steepness)	Slope (sign)	Coordinates
x-vs-t	SPEED: steeper slope = faster motion	DIRECTION: + = one direction − = the other	LOCATION at a given TIME (x, y) ⇓ (t, x)
v-vs-t	ACCELERATION: steeper slope = a faster change in the velocity	+ = velocity is getting more + − = velocity is getting more −	VELOCITY at a given TIME (x, y) ⇓ (t, v)
a-vs-t			ACCELERATION at a given TIME (x, y) ⇓ (t, a)



Making *v-vs-t* from *x-vs-t*:

1. Identify sections with different slopes

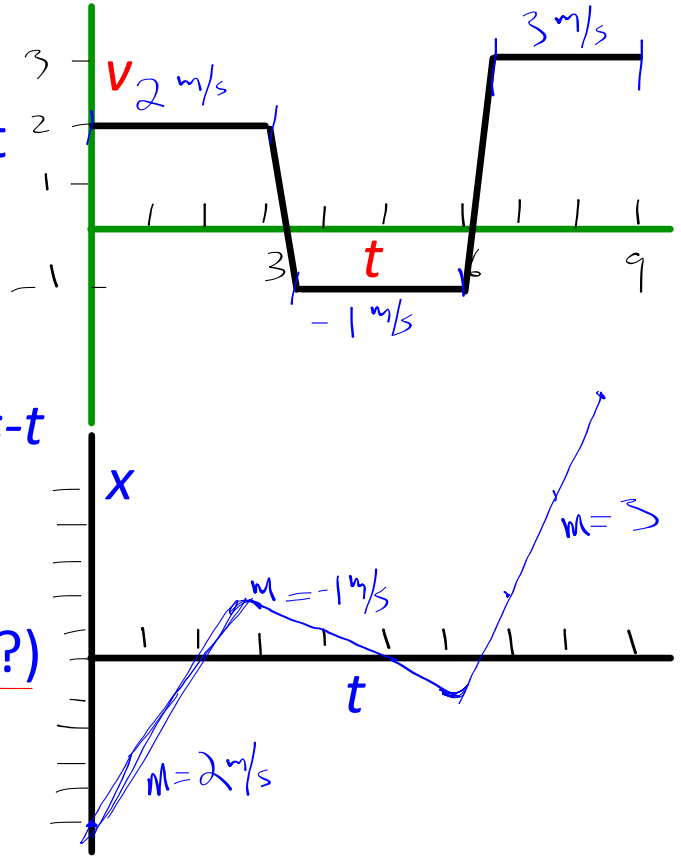
2. The y-axis (*v*) of the *v-vs-t* graph will be equal to the slope of the *x-vs-t* graph for each section



Making *x-vs-t* from *v-vs-t*:

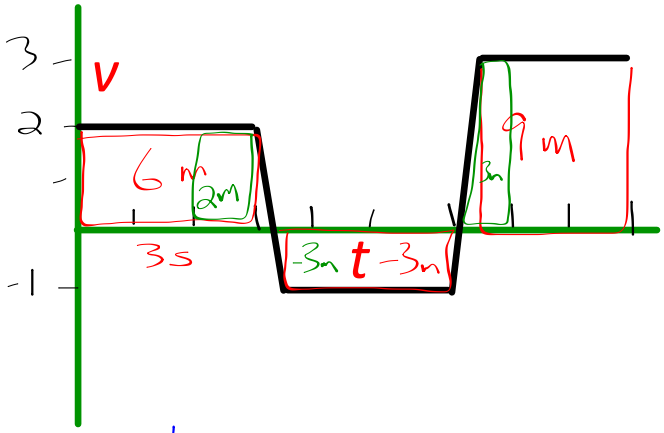
1. Identify sections with different y-axis values (*v*)

2. The slope (rise/run) of the *x-vs-t* graph will be equal to the y-axis values (*v*) of the v-vs-t graph for each section (where does it start?)



Finding displacement from *v-vs-t*:

1. Draw squares or triangles between the "curve" and the time axis (only between the times you're interested in)
2. Find/estimate the area of each shape (negatives matter!)
3. Add the areas together
4. If you have (or make) the *x-vs-t*, check!



$t = 0$ to $t = 9$:

$\Delta x = 12\text{m}$

$t = 2$ to $t = 7$:

$\Delta x = 2\text{m}$