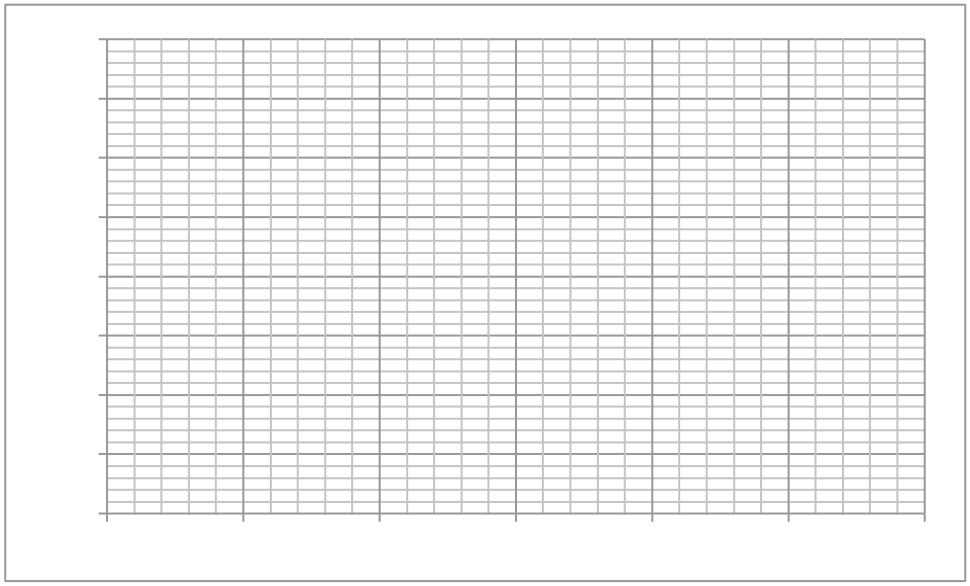
Cornell Notes **13**	**Topic/Objective: Graphing Basics** A small number of known values and a basic understanding of the patterns involved in motion may reveal a wide variety of kinematic information.	**Name:** **Class/Period:** **Date:**

Essential Questions: How may we symbolically represent kinematic information? What may be gained by doing this? How do units of measurement affect kinematic understanding?

Questions:	**Notes: A car is driving at an average speed of 30 mph for 2.5 hours.**
	We will put the information in a clearly labeled chart. Make sure the correct units of measurement are included.
	Distance for car averaging 30 mph

Time (Hours)	Distance (Miles)
0	0
0.5	
1	
1.5	
2	
2.5	



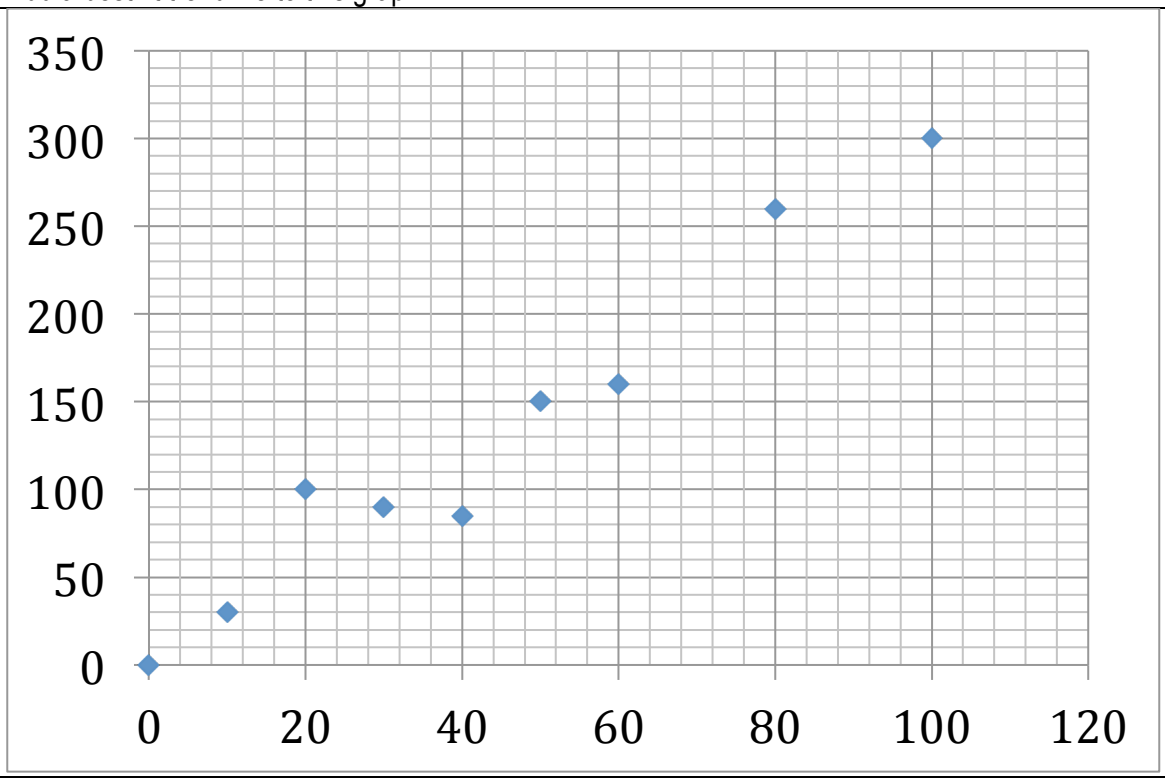
Summary:

Questions:	Notes: Graphs will need to have a valid scale on the vertical and horizontal axis.
	Both axis must be labeled with units indicated.
	Graphs symbolically show the relationship between at least two variables. What are the variables in our example?
	It is customary to title graphs as the vertical variable vs the horizontal variable.
	For this class, graphs must have a title that follows this custom.
	The slope of a line indicates the change in the vertical variable with respect to the horizontal variable.
	In our example, distance vs time.
	The slope of a line is often referred to as rise over run. The change in the vertical over the change in the horizontal.
	This is useful for calculating the slope.
	Any two points on the line may be used to find the slope.
	Using the first two data points, determine the rise over run.

Summary:

Questions:	Notes: Δ is a symbol that indicates a change.
	So rise over run may be symbolized as Δ vertical / Δ horizontal
	Sometimes, this is symbolized as $\Delta y / \Delta x$ or $(y_2 - y_1)/(x_2 - x_1)$
	In our case, we have $\Delta d/\Delta t$
	For a line, the same slope will be found by using any two data points .
	What does the slope of the line represent?
	Give an equation for the line.
	The general equation for a line $y = mx + b$
	m is the slope b is the y intercept

Summary:

Questions:	Notes: Trendline is a general term that also applies to curves
	So far all of the data points have been on the trendline. This will not always be the case.
	A best fit trendline can be used.
	Add a best fit trendline to this graph.
	

Summary:

Questions:	Notes:

Summary: