Graphing: Slope

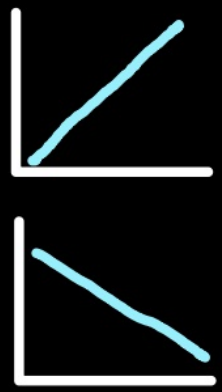
3.5.20

Today's Objectives:

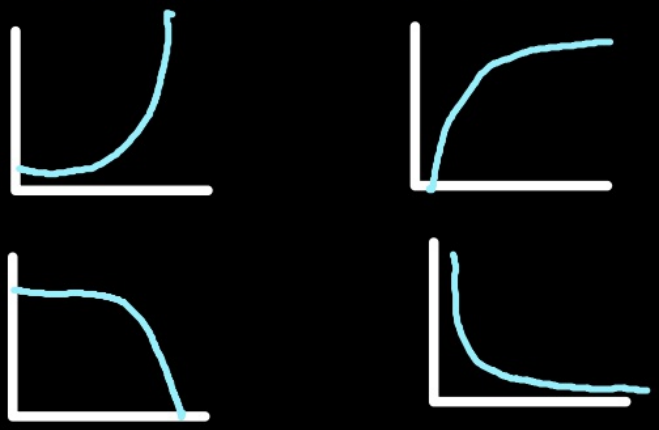
- Learn the types of graphs
- How to take slope
- Draw a line of best fit

Two main types of graphs:

Linear



Non-Linear (Curve)

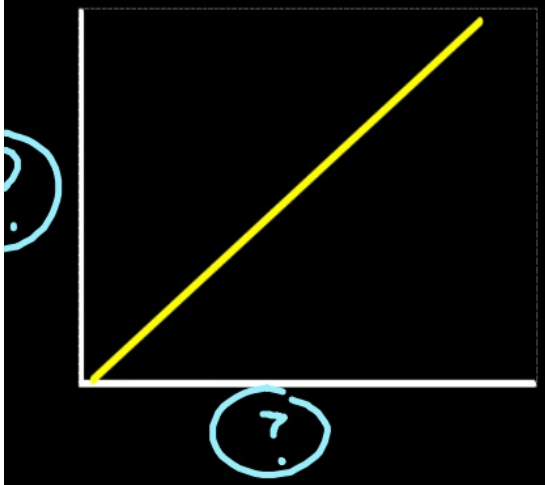


$y = mx + b$

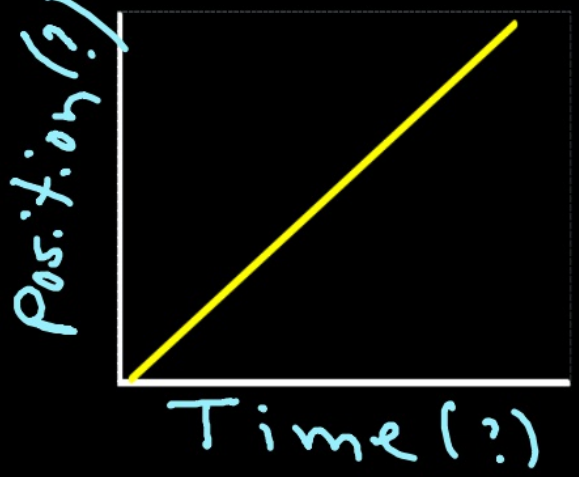
Slope

y-intercept (first value)

Any graph you turn in needs to be labeled!!
(Both with X and Y measurements and units!!!)



Bad! :-



Eh :/

Full Credit

Linear Graphs

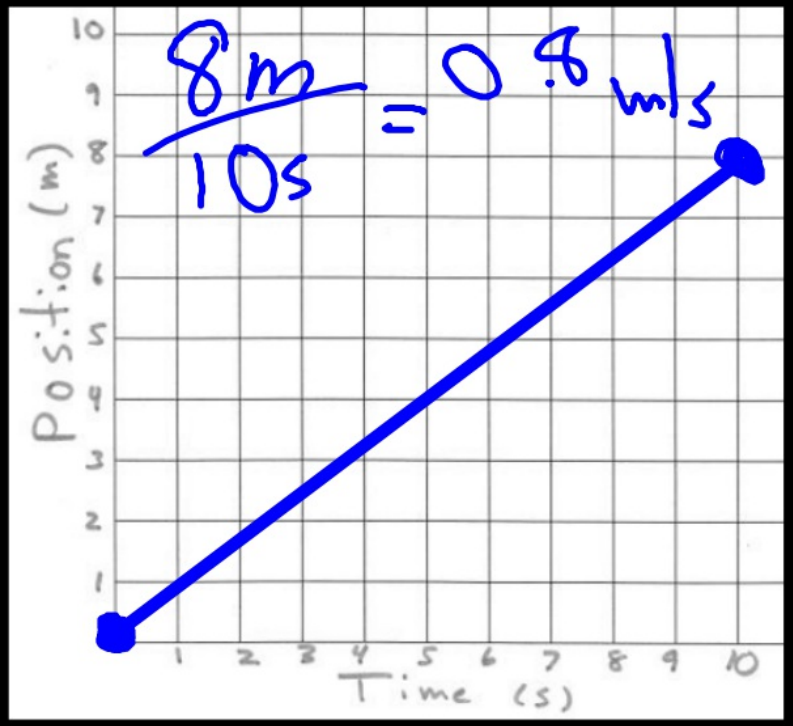
$$\text{Slope} = \frac{\text{Rise}}{\text{Run}} = \frac{\text{Change in } y}{\text{Change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

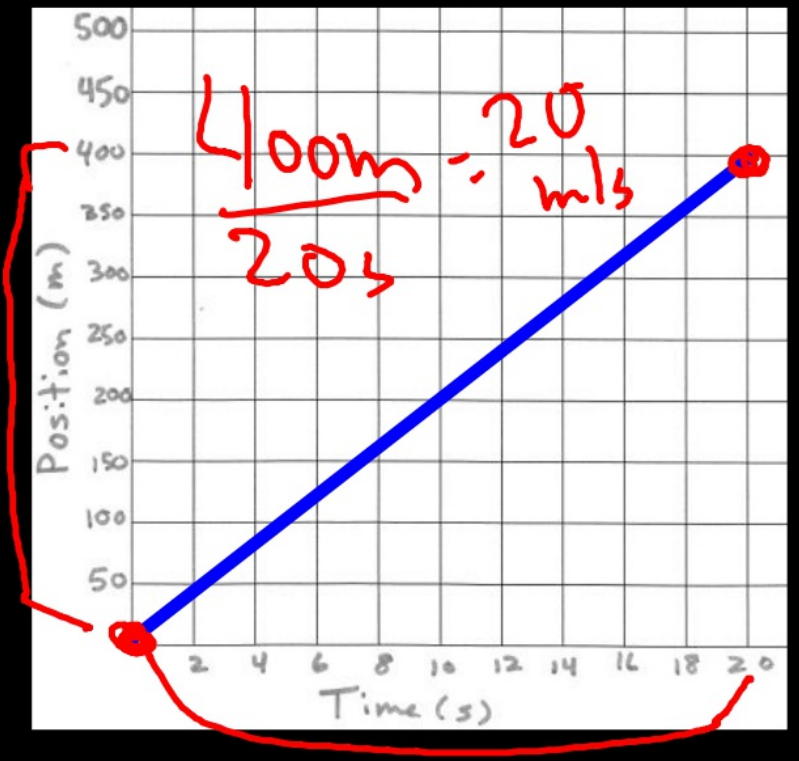
Slope has units, it's always = $\dfrac{y \text{ unit}}{x \text{ unit}}$

"Counting Squares" vs Rise/Run

Only works for 1x1 squares!

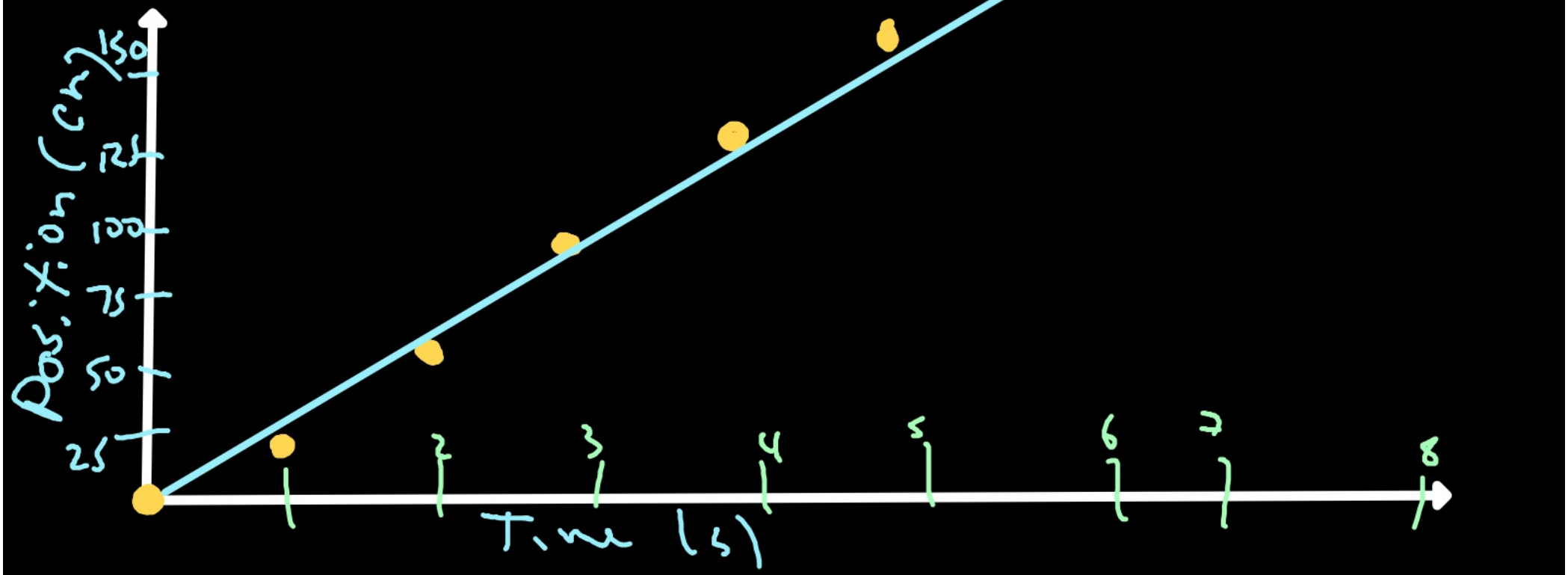
Works for all graphs!





Line of Best Fit

- visual average of your data
- include the point 0,0
- it will miss some points, this is OK
- has to be a straight line - USE A RULER



How to Measure Your Car's Position

Tips:

- Use scotch tape to attach the paper to the floor.
- Use several meter sticks (measure in cm).
- Always measure from the start to each point.