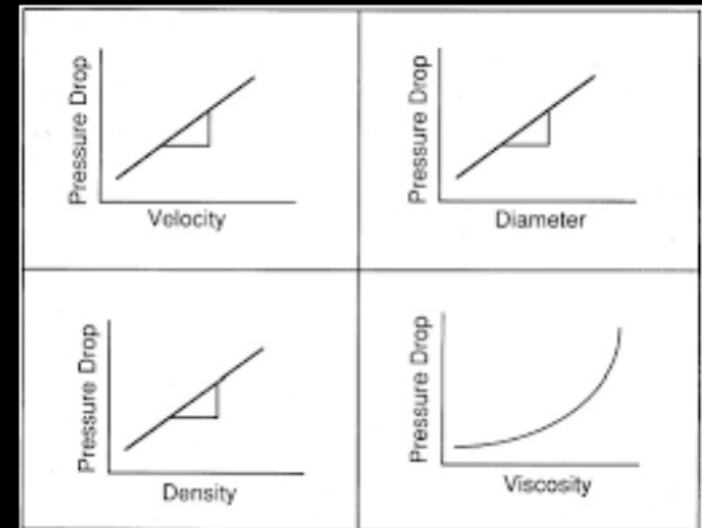


3.10.20

Graphing: All 5 Types of Graphs

Today's Objectives:

- Learn how equations are figured out
- Distinguish between the 5 types of graphs
- Use Logger Pro to interpret data

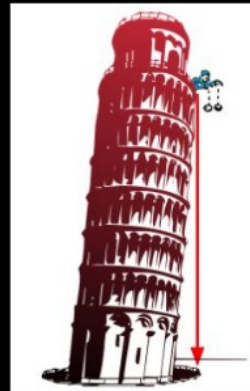


Q: Where do equations come from?

Experiments and
Lab data.

Ex: When you drop something from a height, how long does it take for it to hit the ground?

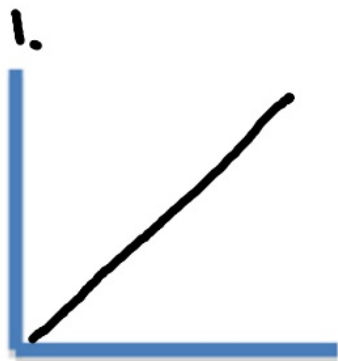
(What is the math relationship between height and time in the air?)



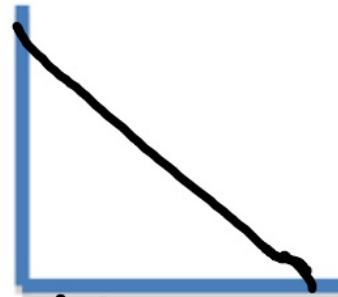
→ Math Relationship Lab

- When you increase X, what happens to Y ?
- Take data, make a graph
- What is the equation that connects them ?

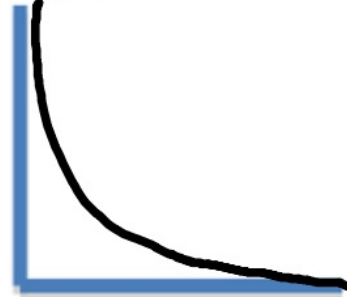
2. Five Graph Shapes To Know:



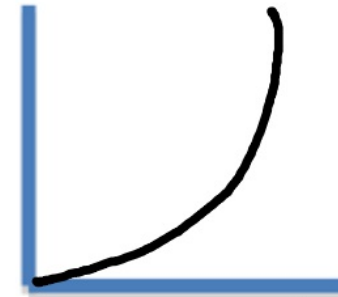
Linear
Increase
 $y = m \cdot x + b$
+ ↑



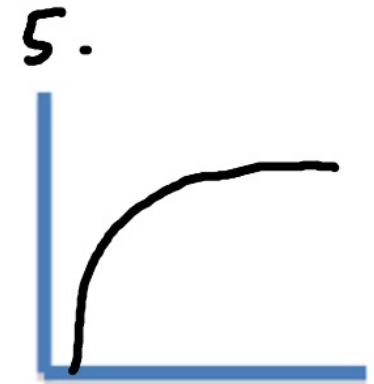
Linear
Decrease
 $y = m \cdot x + b$
↓ -



Inverse
 $y = \frac{A}{x}$



Squared
 $y = A \cdot x^2$



Square
Root
 $y = A \cdot \sqrt{x}$

A: parabola constant.

- X axis (independent variable is on the left)
- Y-axis (dependent variable is on the right)
- Sketch your graph with **labeled** X and Y axes.



Autoscale:
auto-zooms
your graph



Curve Fit:
opens the equation
calculating window

Data Set 1 – Volume and Pressure

V (m ³)	P (pa)
0.1	40
0.5	8
1	4
2	2
4	1
5	0.8
8	0.5
10	0.4

Type of graph: _____

Substituted Equation: _____

Sketch of graph:



- When V is doubled, P will _____
- When V is tripled, P will _____
- When V is halved, P will _____

Save
for
tomo