Lab 1: The Lab Name

Name: **Your Name**
Class: **Physics Lab XXXX (YYYYY)**
Date: **YYYY-MM-DD**

Objective

To learn to plot a straight line graph and determine the slope and the y-intercept.

Equipment

None

Theory

As shown in the "Scatterplot with Trendline" section below, a two-dimensional set of data can be visualized on a coordinate plane, using the equation $y = mx + b$ where m is the slope and b is the y-intercept.

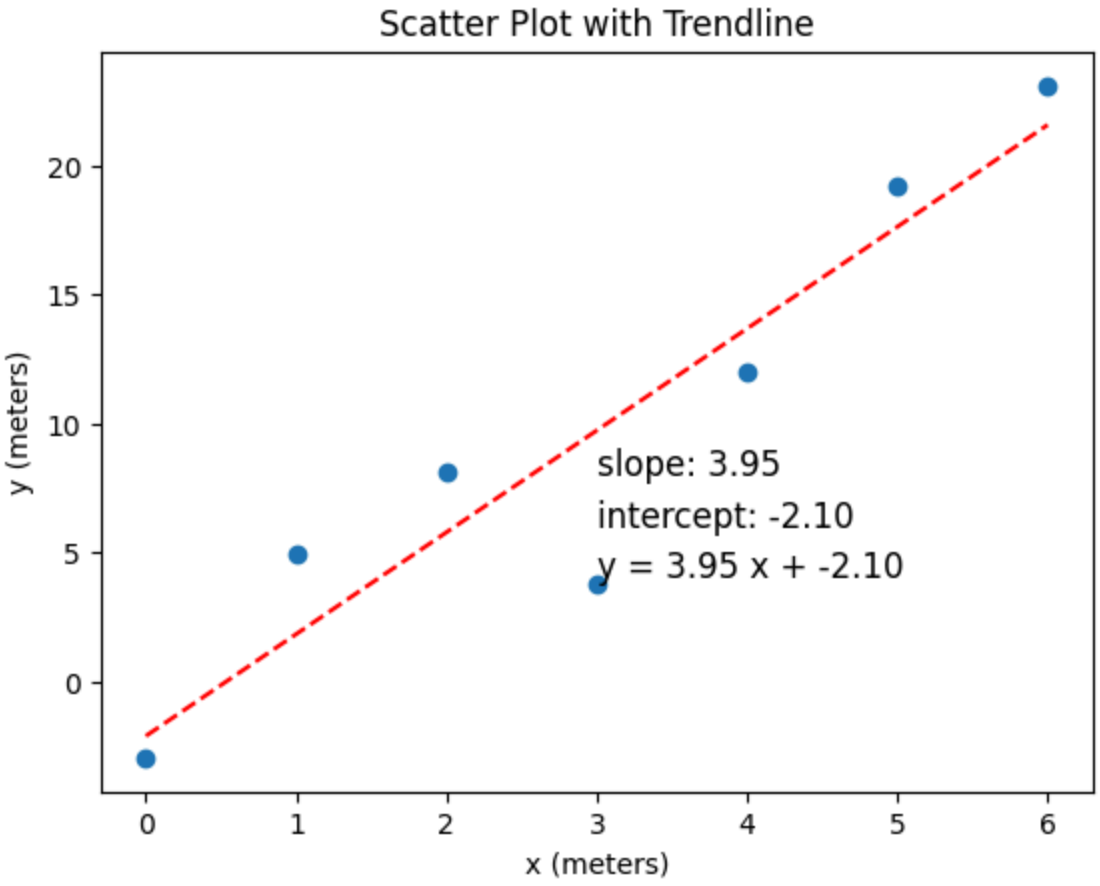
Procedure:

1. Data (see below) was provided by the professor.
2. A linear trendline was fit to the data.
3. Using the linear trendline we calculated the slope (m) and y-intercept (b).

Data

x (meters)	y (meters)
0	-2.95
1	4.95
2	8.10
3	3.80
4	12.00
5	19.20
6	23.10

Calculations



$$\sigma = \sqrt{\frac{\sum_{i=1}^{n} (x_i - \bar{x})^2}{n}}$$

$$\sigma = \sqrt{\frac{\sum_{i=1}^{n} (x_i - 9.74)^2}{7}}$$

$$\sigma = 8.41$$

Results

The slope of the trendline is **3.95**

The y-intercept of the trendline is **-2.10**

The standard deviation (σ) of the population is **8.41**