

Noteset I I - In Class Notes

Types of Variables

Independent Variable (x): The variable we control when collecting data

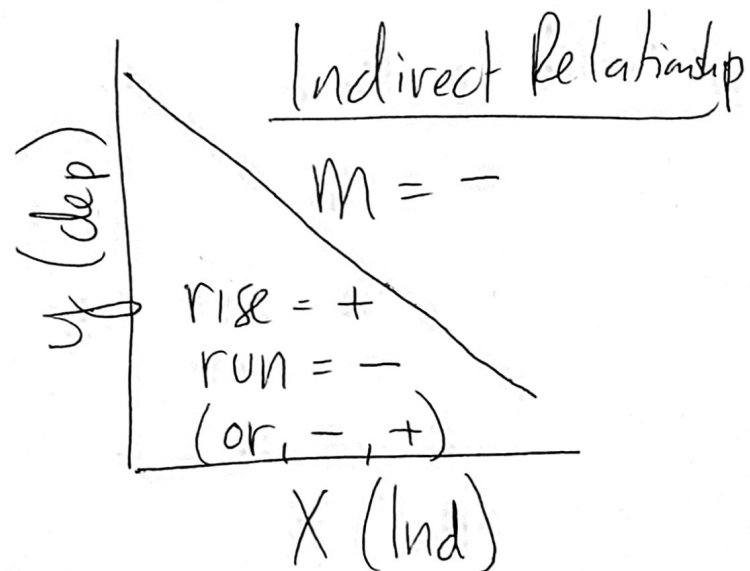
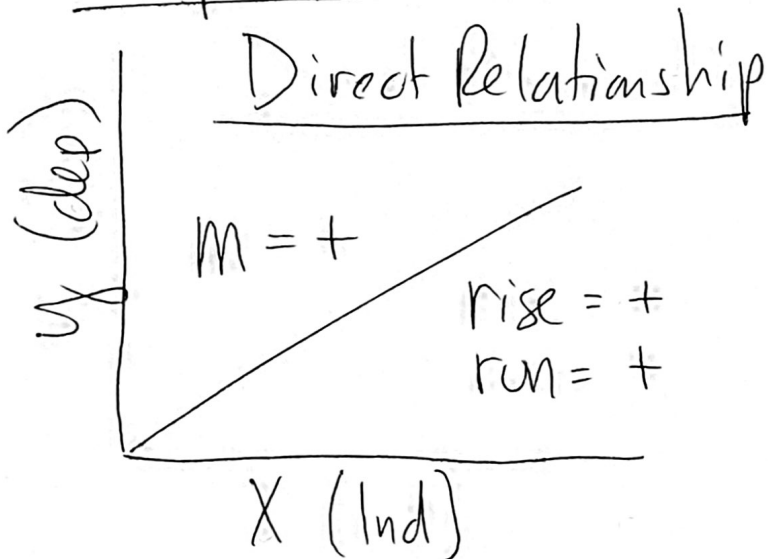
Dependent Variable (y): The variable that changes based on independent variable when collecting data.

Example Data Set

X (Ind.)	20	40	60	80	100	(meters)
y (dep.)	12.6	24.3	37.6	51.9	64.1	(seconds)

Note: X is whole numbers, Y are decimals

Slope and Relationships



Calculating Slope

Point Point Form

given (x_1, y_1) and (x_2, y_2) on line of best fit
(graph)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

(+ = direct) (- = indirect)

Ex: (From chart) ① ~~(40, 24.3)~~ ② (80, 51.9)

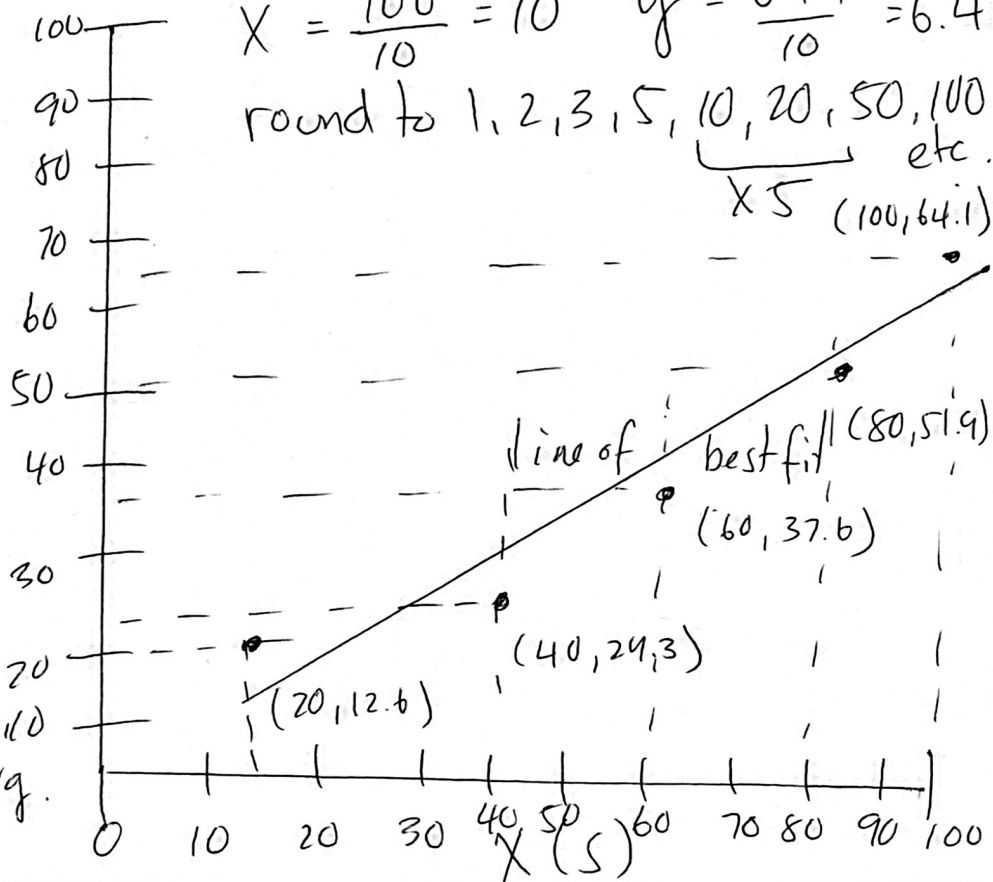
$$m = \frac{(51.9 - 24.3)}{(80 - 40)} = \frac{27.6}{40}$$

$$m = + 0.69 \text{ (m/s)}$$

Graphing Data

X	Y
20	12.6
40	24.3
60	37.6
80	51.9
100	64.1

(Σ
Σ)



Plot points on graph
fit line through avg.
of point

To find line #: highest #
lines ¹⁰
 $X = \frac{100}{10} = 10$ $y = \frac{64.1}{10} = 6.41$
round to 1, 2, 3, 5, 10, 20, 50, 100 etc.
X 5 (100, 64.1)

line of best fit (80, 51.9)
(60, 37.6)

(40, 24.3)

(20, 12.6)