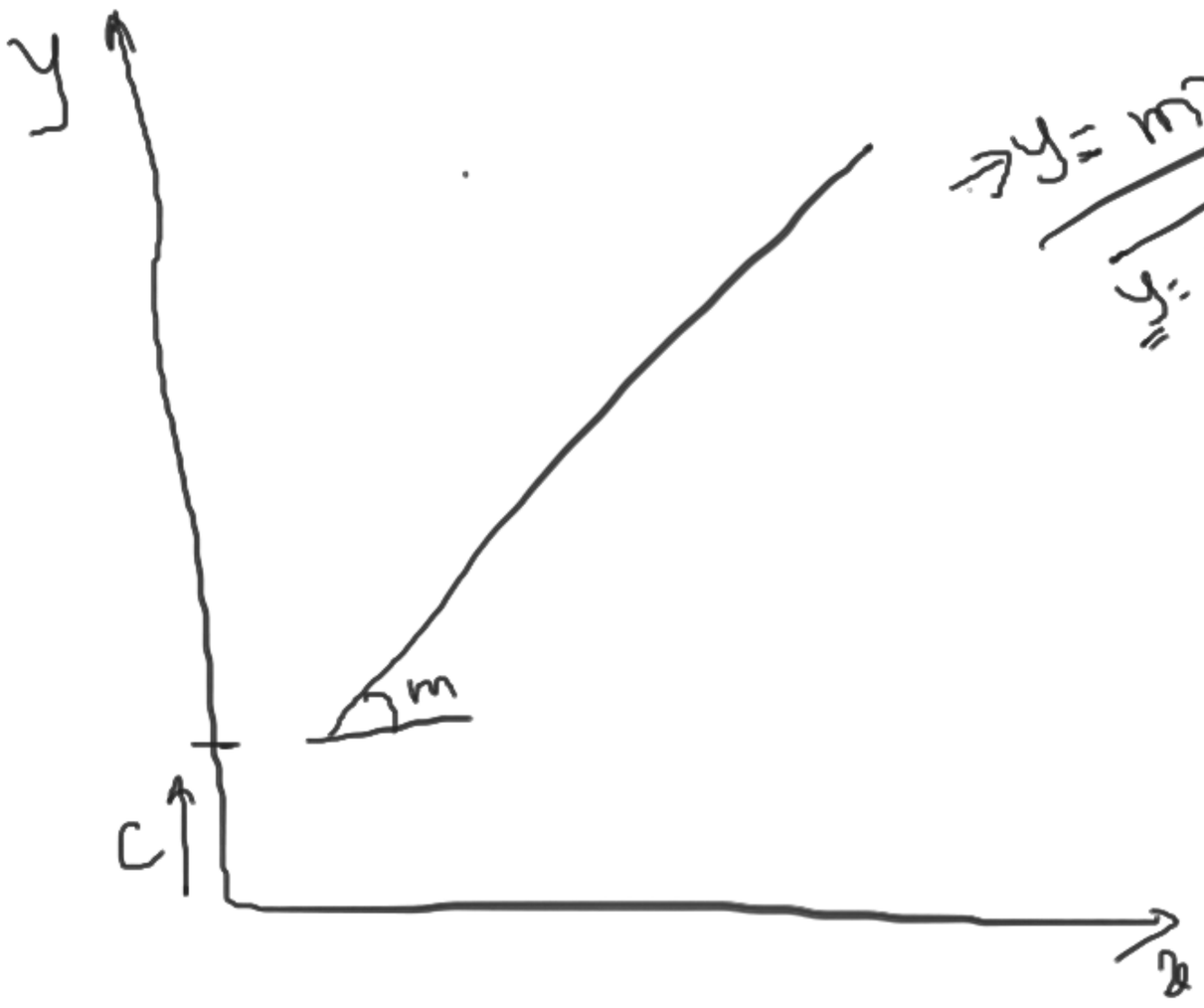


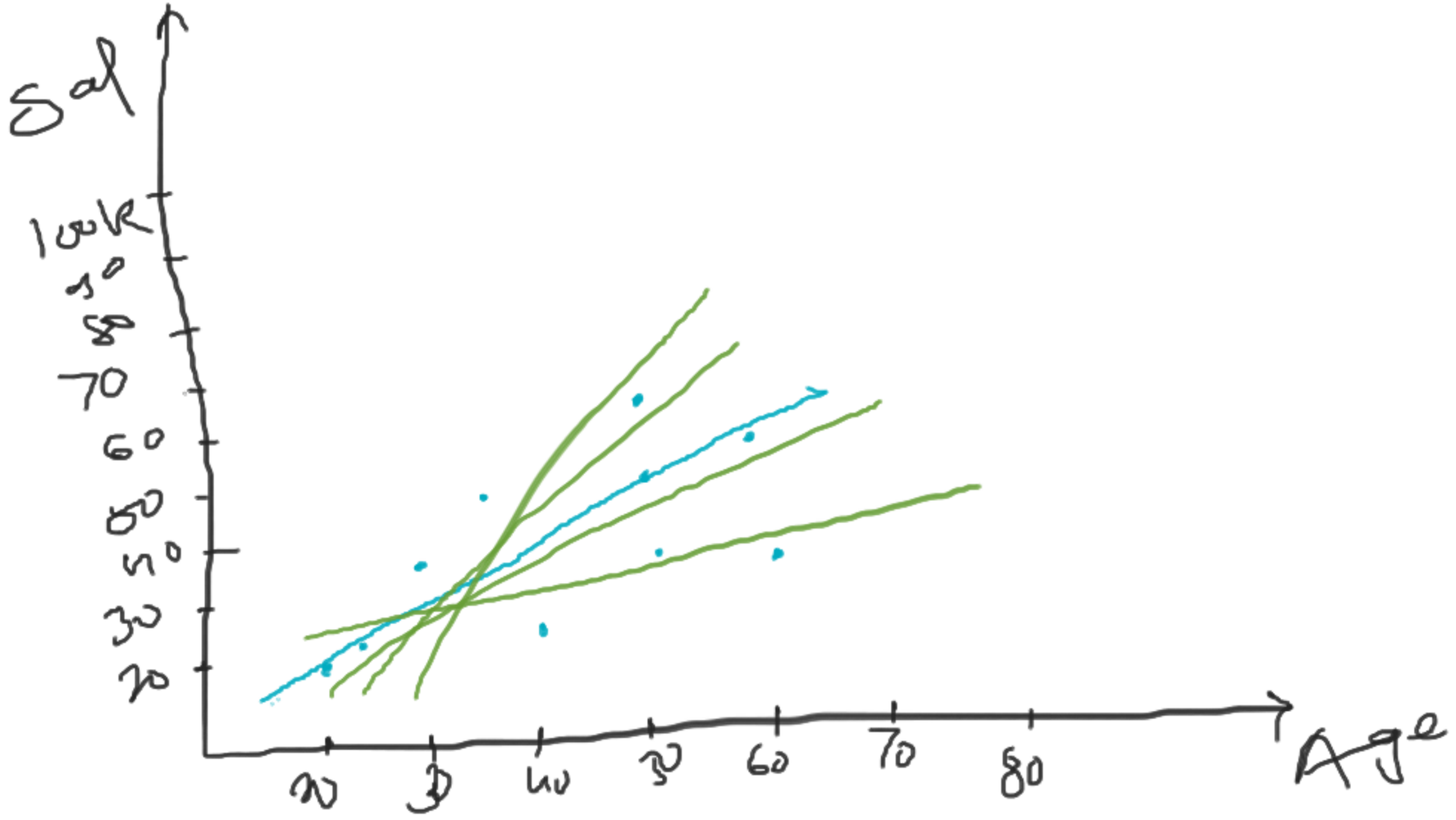
$\Rightarrow y = mx + c$

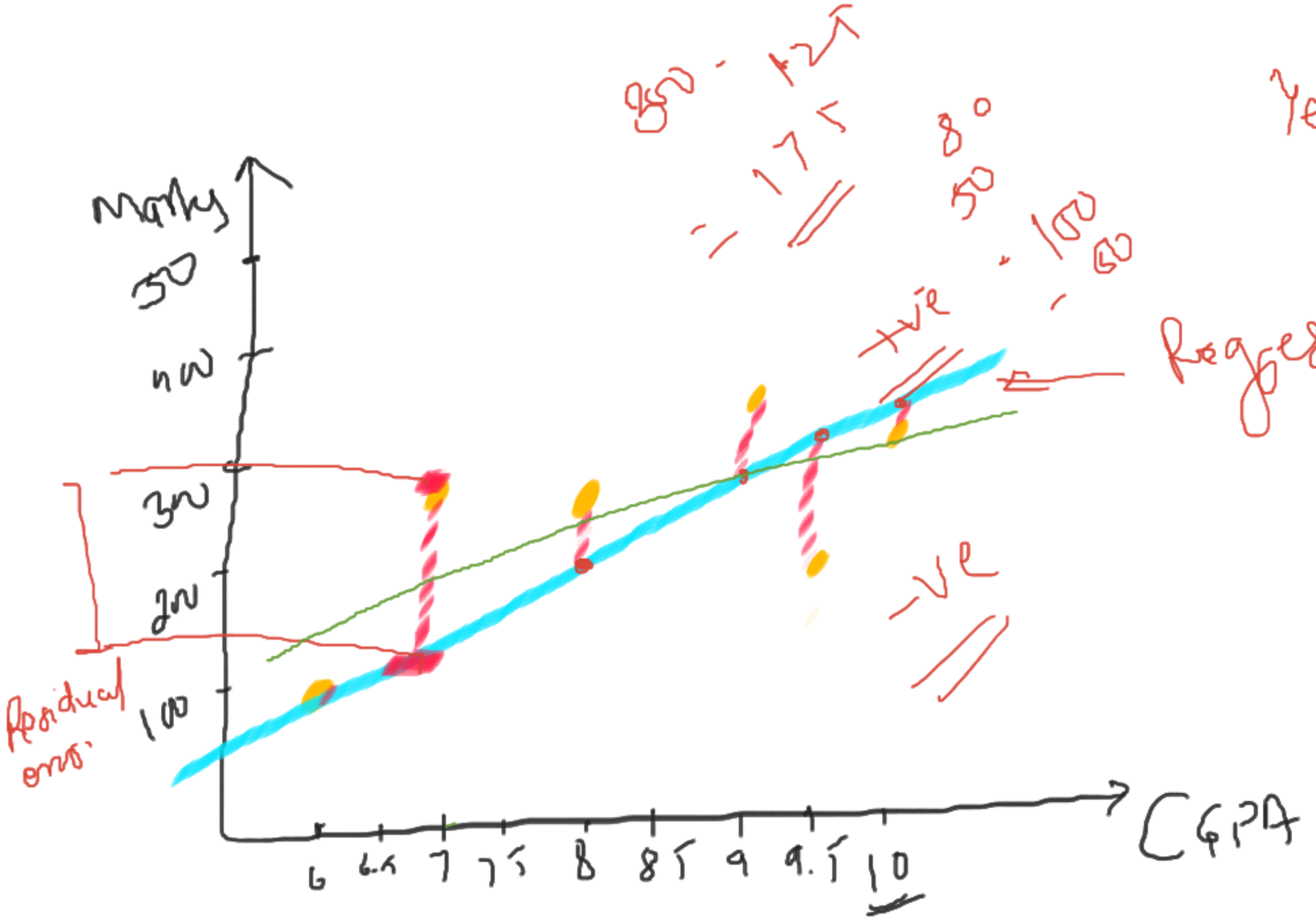
$y = mx + c$ ≡ intercept - on y-axis

$y = mx + c$ ≡ Slope

BFL

(Best Fit line)


Sal
100K
90
80
70
60
50
40
30
20
20
30
40
50
60
70
80
Age



Yellow = actual point

Blue - predicted point

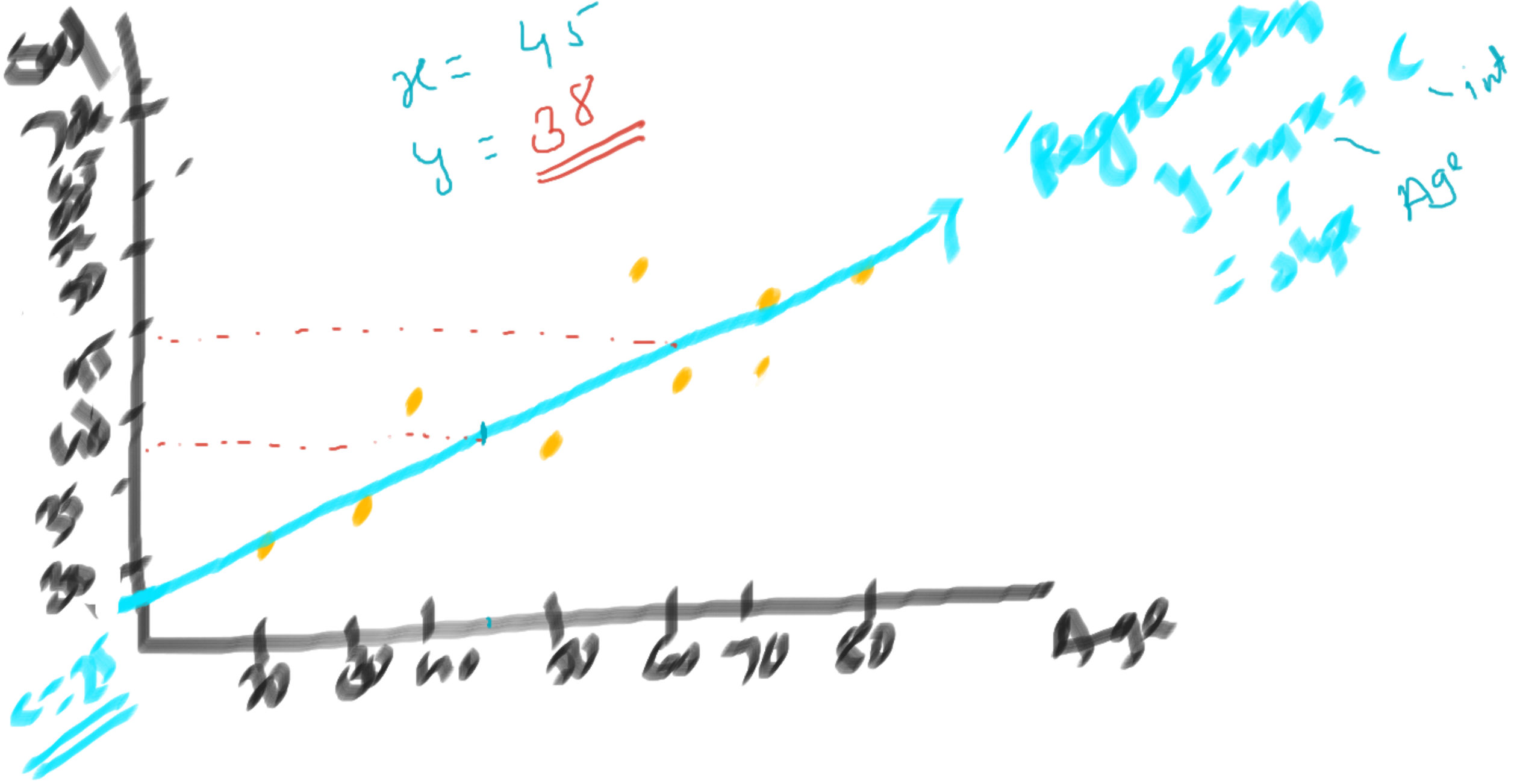
Regression line

+ve

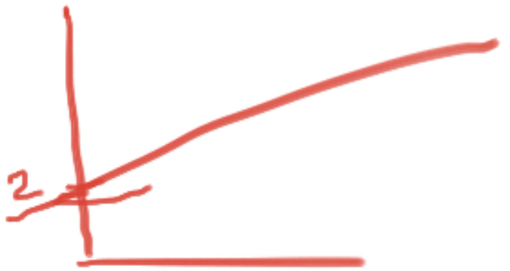
-ve

RSS

Residual sum of squares


x = 45
y = 38
Age
Age

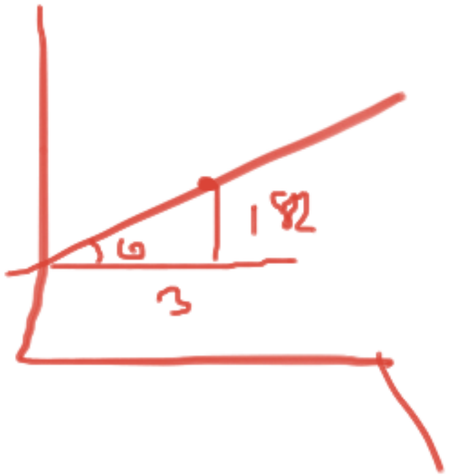
$y = mx + c$



$x = 10$

$y = ?$

$m =$



10

$\frac{O}{A}$

$m = \frac{O}{A} = \frac{12}{3}$

$m = 4$

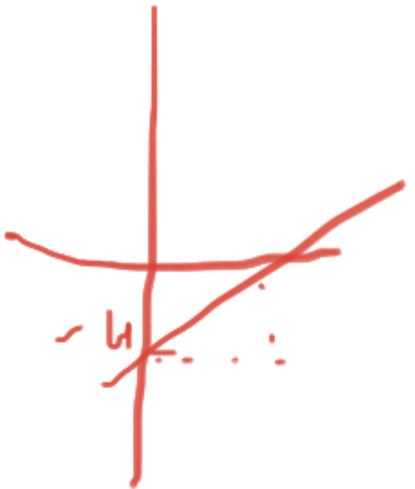
$y = 4x + 2$

$y = 42$

$= 16$

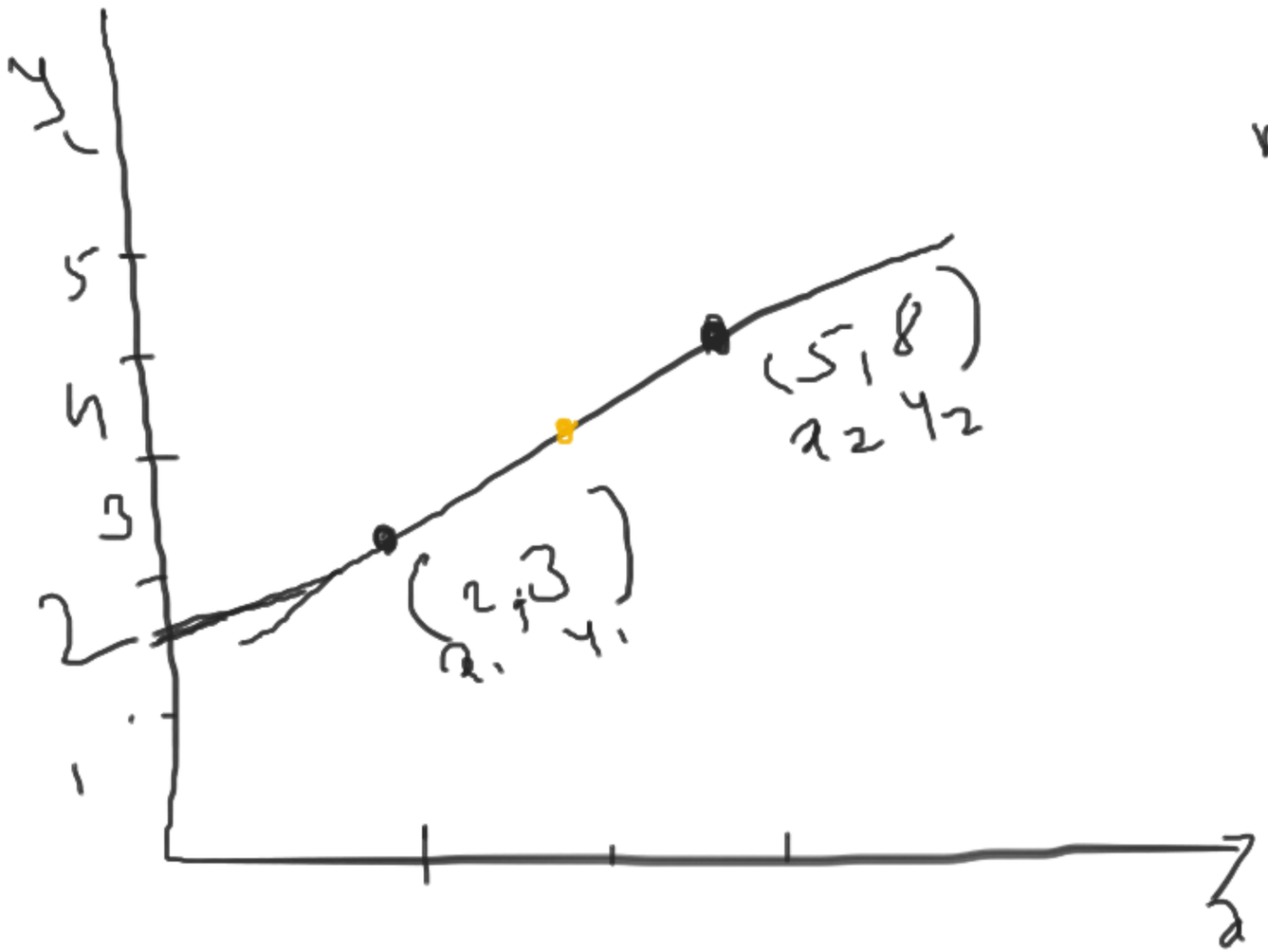
$y = 6 \times 15 - 4$

$= 86$



$m = 6$

$c = 2$



$$m = \left(\frac{y_2 - y_1}{x_2 - x_1} \right)$$

$$= \frac{8 - 3}{5 - 2}$$

$$= \frac{5}{3}$$

$$m = \frac{5}{3}$$

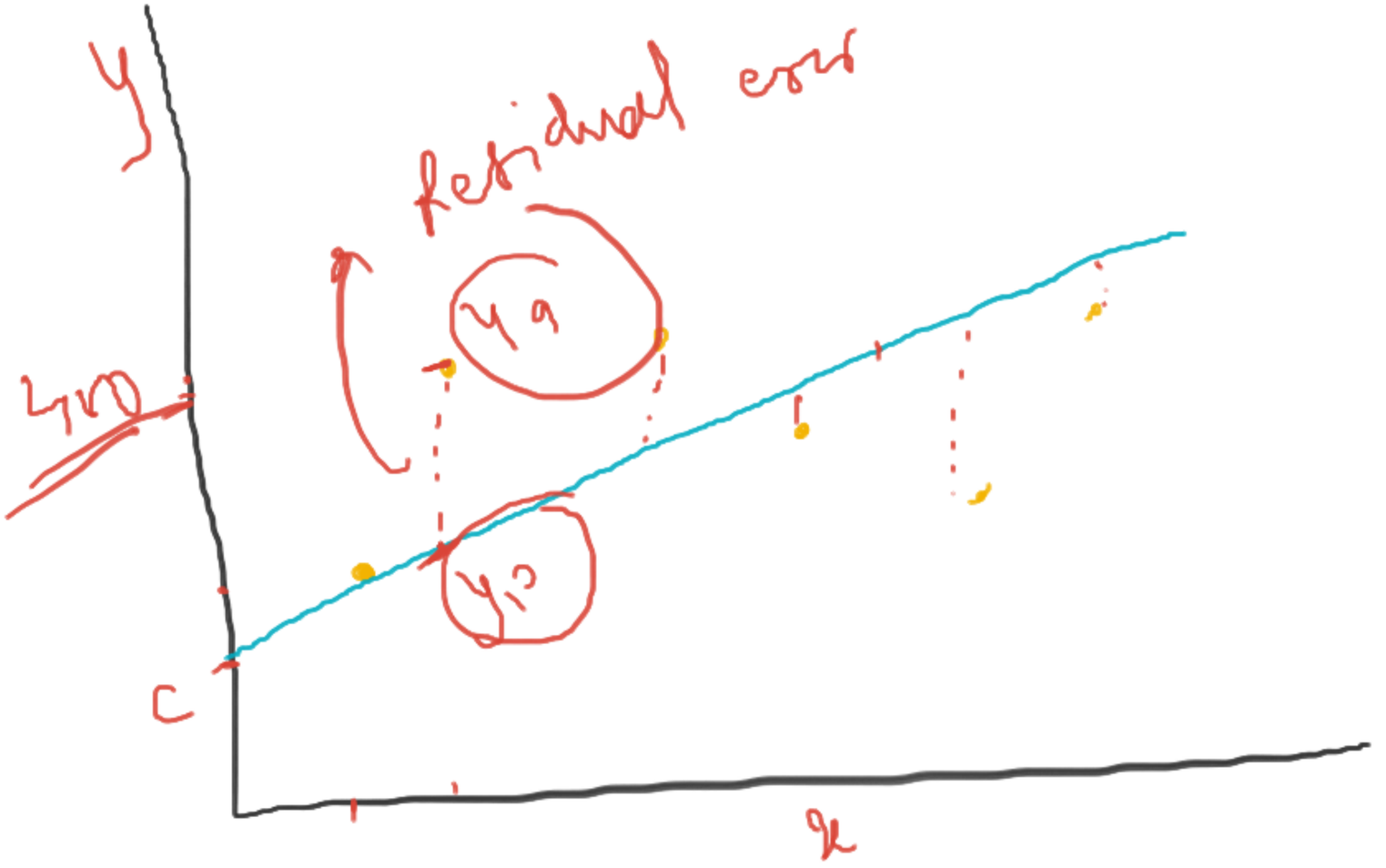
$$y = 5x + 2$$

$$y = \frac{3}{3}$$

$$= \frac{5}{3} \cdot 5 + 2$$

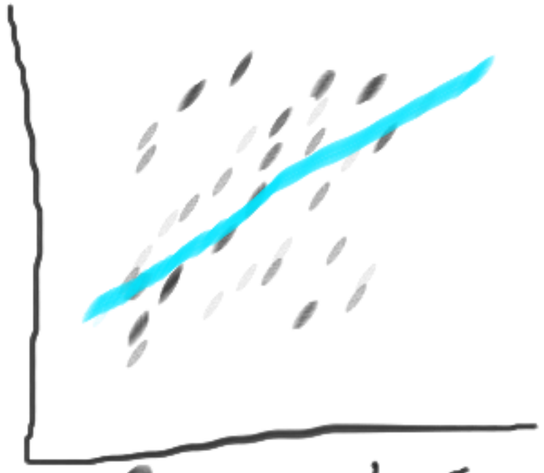
$$= \frac{5}{3} \cdot 3 + 2 = 10 \; 2$$

yellow = Actual
Blue = predicted



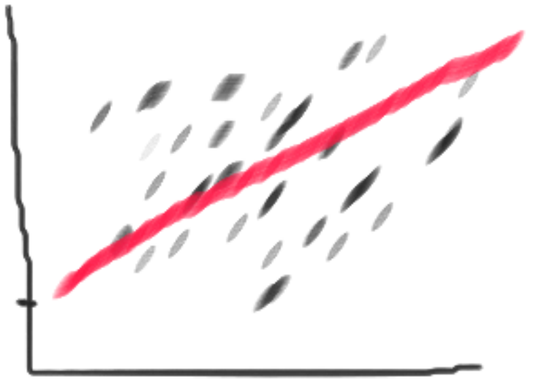
Amit-

CGPA



RSS = 45

RSS = 86



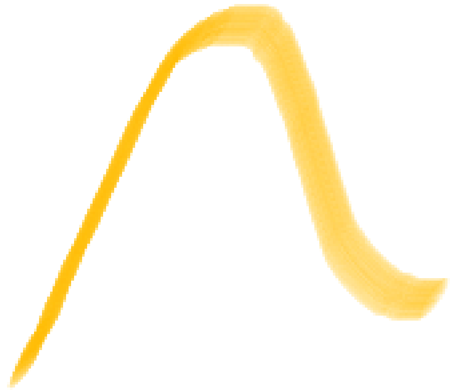
RSS = 37

$$RSS = \sum_{n} (y_i - \hat{y}_i)^2$$

the lowest value of RSS that line will be BFL

$$\text{error} = \frac{7.5 + 100}{200}$$

s	
1	-90
2	-60
3	78
4	45
5	-21



r

| |

Sum of squares

$(-2)^2 = 4$

2

MSE = $\frac{\Sigma(y_a - y_p')^2}{n}$

Mean squared error

$= \frac{\Sigma(4^2 + 6^2 + 3^2)}{3}$

y_a	y_p
700	660
450	440
600	650

MSE = ____

y

$(y_a - y_p)^2$ = Residual error

$\varepsilon (y_a - y_p)^2$

SSE = Sum of squared residual errors

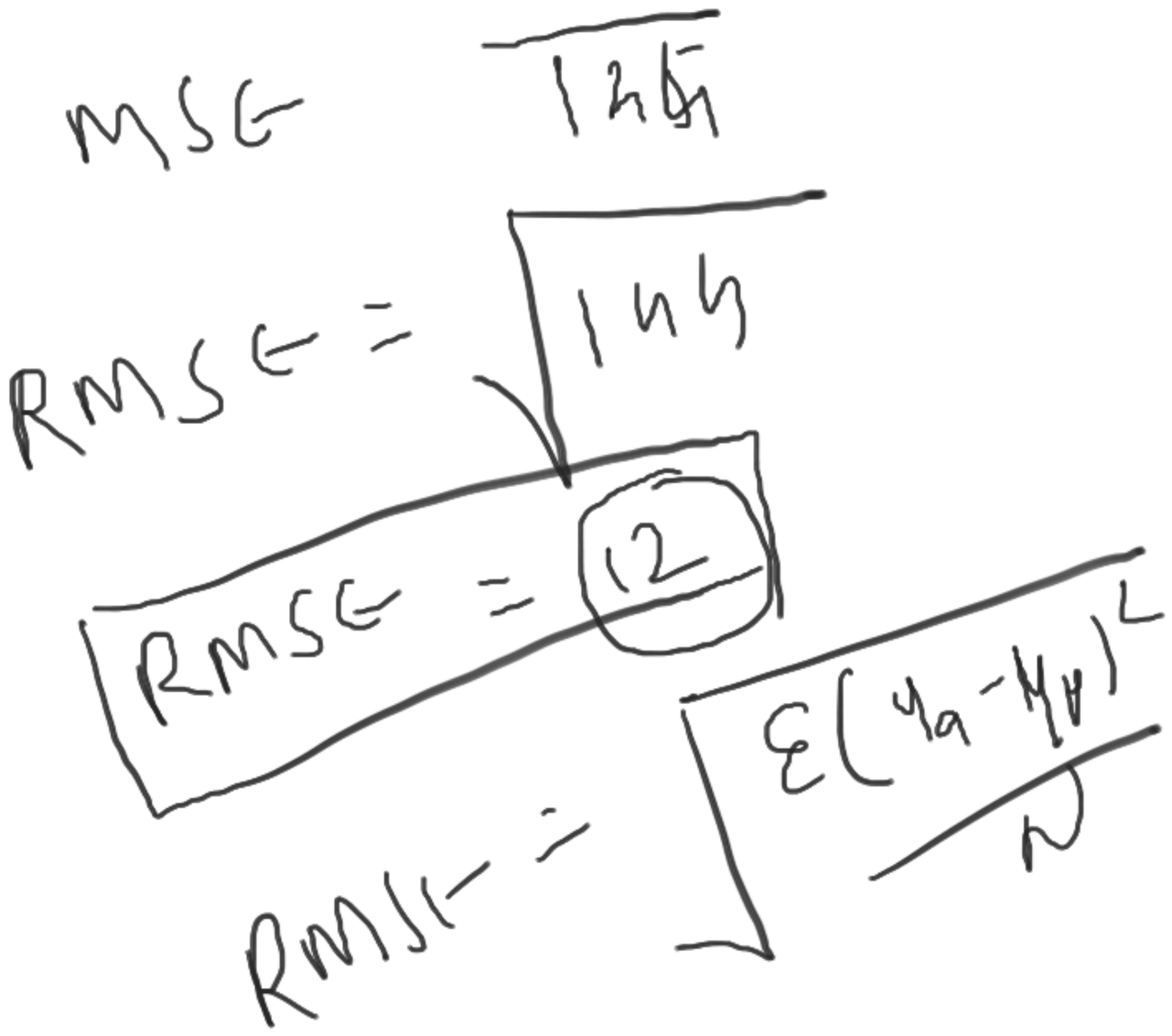
$$MSE = \frac{\varepsilon (y_a - y_p)^2}{N}$$

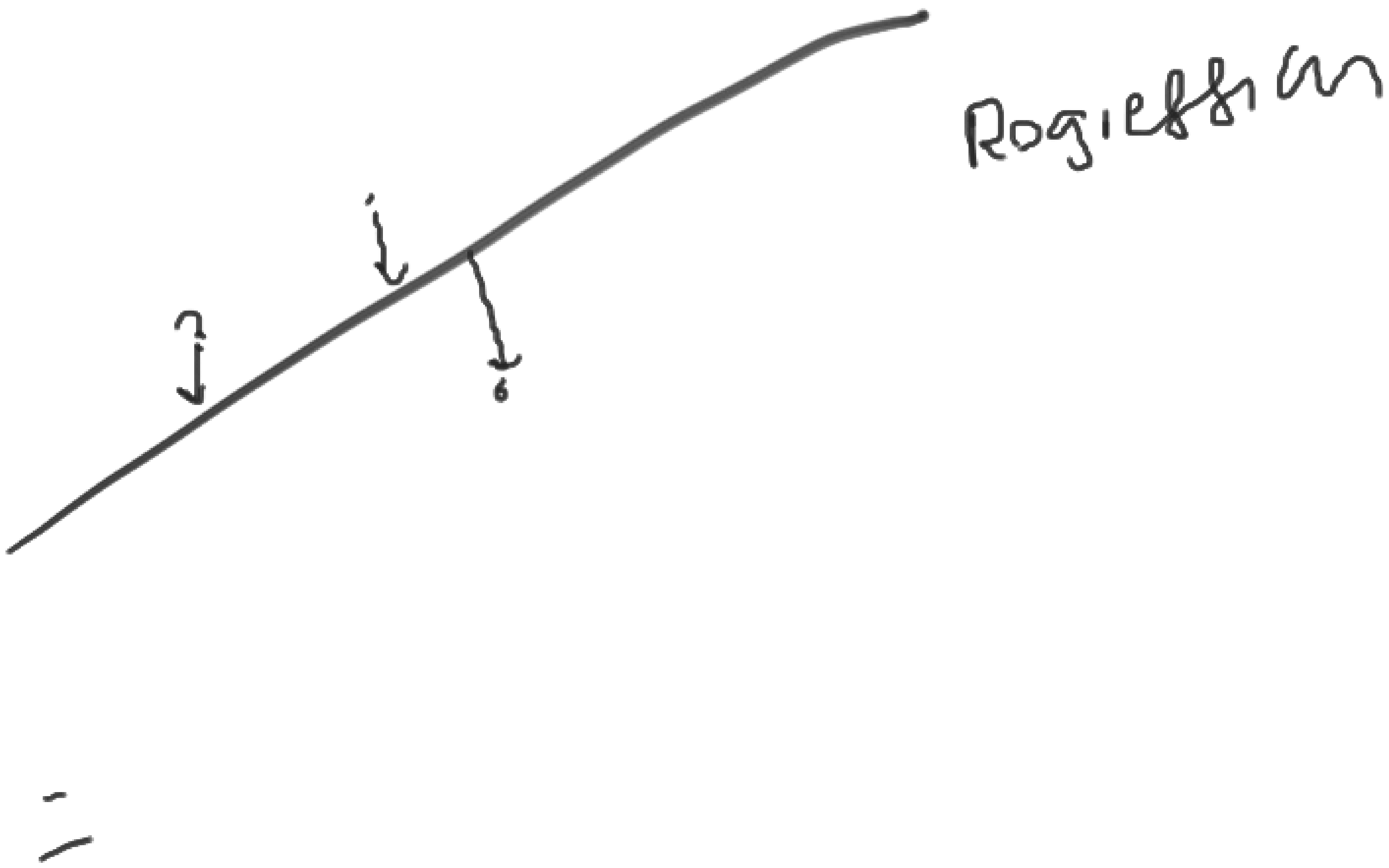
$y_3 - 3$

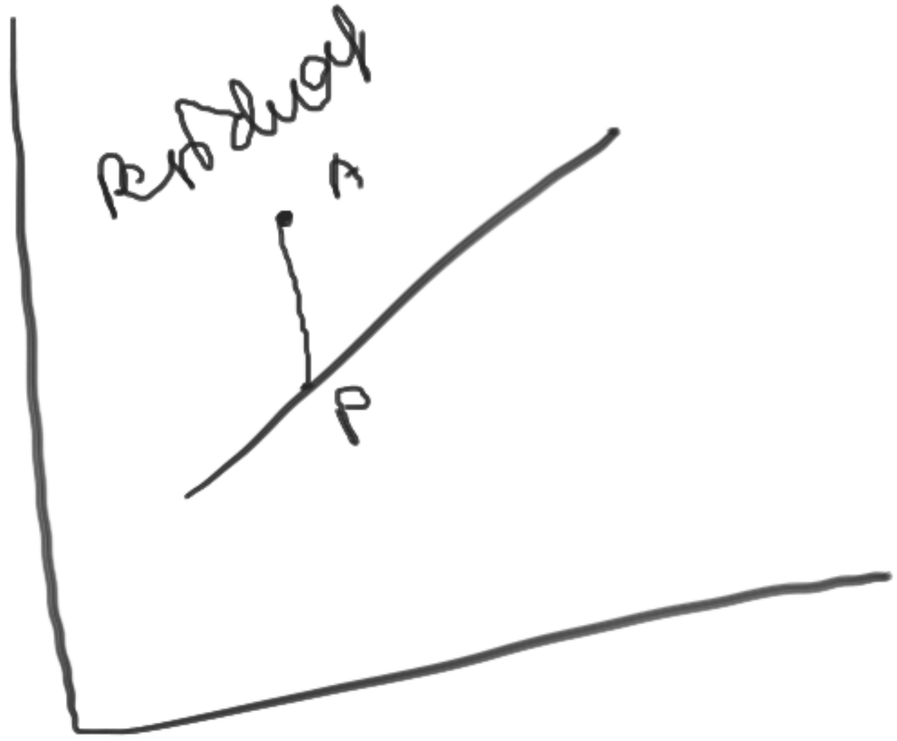
$1 \quad 1^2$

$(3-3) + (4+2)^2$

2


MSE
RMSE =
RMSE = 12
RMSE =


Rogieffian



$$SS_E = \sum (y_a - y_p)^2$$