(=) $\boxed{a\Sigma x_i + b\Sigma x_i^2 = \Sigma x_i y_i}$

y_i	3
2	
10	
15	
10,5	
8	
45,5	

$$a_0 = \frac{190 \cdot 7{,}5 - 30\,45{,}5}{5 \cdot 190 - 900}$$

$$a = \frac{1425 - 1365}{950 - 900} = \frac{60}{50} = \frac{6}{5} = \boxed{1{,}2}$$

$$b_1 = \frac{5 \cdot 45{,}5 - 30 \cdot 7{,}5}{5 \cdot 190 - 900} = \frac{227{,}5 - 225}{50}$$

$$= \frac{2{,}5}{50}\ 0{,}5$$

$$\boxed{= 0{,}05}$$

$y = a + bx$

$\boxed{= 1{,}2 + 0{,}05x}$

1. $x + 2y + 4z = 11$

$2x + 5y + 2z = 3$

$4x - y + z = 8$

Matriks koefisien

$$\begin{bmatrix} 1 & 2 & 4 & 11 \\ 2 & 5 & 2 & 3 \\ 4 & -1 & 1 & 8 \end{bmatrix}$$

Gunakan OBE cari eselon

$$\longrightarrow \begin{bmatrix} 1 & 2 & 4 & 11 \\ 0 & 1 & -6 & -19 \\ 0 & -9 & -15 & -36 \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 2 & 4 & 11 \\ 0 & 1 & -6 & -19 \\ 0 & 0 & -69 & -207 \end{bmatrix}$$

$$\leftarrow \begin{bmatrix} 1 & 2 & 4 & 11 \\ 0 & 1 & -6 & -19 \\ 0 & 0 & 1 & 3 \end{bmatrix}$$

$\boxed{z = 3}$

$y - 6z = -19$

$y - 6(3) = -19$

$\boxed{y = -1}$

$x + 2y + 4z = 11$

$x = 11 - 2(-1) - 4(3)$

$= 11 + 2 - 12$

$\boxed{x = 1}$

2 $F_1(x,y) = x - y + 2$ dengan $x^0 = 2$

$F_2(x,y) = x^2 - y - 4$ $y^0 = 4$

cari turunan 2 fungsi diatas terhadap x dan y

$\frac{\partial F_1}{\partial x} = 1$ $\frac{\partial F_2}{\partial x} = 2x$ ← masukkan nilai x_0 dan y_0

↳ $2(2) = 4$

$\frac{\partial F_1}{\partial y} = -1$ $\frac{\partial F_2}{\partial y} = -1$

Cari nilai F_1 dan F_2 dengan $x = x^0$ dan $y = y^0$

$F_1^0(2,4) = 2 - 4 + 2 = 0$

$F_2^0(2,4) = 4 - 4 - 4 = -4$

Subtitusikan hasilnya ke persamaan dgn $U = F_1$, $V = F_2$

$$x_{i+1} = x_i - \frac{u_i \frac{\partial v_i}{\partial y} - v_i \frac{\partial u_i}{\partial y}}{\frac{\partial u_i}{\partial x}\frac{\partial v_i}{\partial y} - \frac{\partial u_i}{\partial y}\frac{\partial v_i}{\partial x}}$$

$$y_{i+1} = y_i - \frac{v_i \frac{\partial u_i}{\partial x} - u_i \frac{\partial v_i}{\partial x}}{\frac{\partial u_i}{\partial x}\frac{\partial v_i}{\partial y} - \frac{\partial u_i}{\partial y}\frac{\partial v_i}{\partial x}}$$

-1 1

$y_{i+1} =$

Sehingga x_1 dan y_1 (iterasi ke-1)

$$x_1 = 2 - \frac{0(-1) - (-4)(-1)}{(1.(-1)) - ((-1).4)}$$

$$= 2 - \frac{-4}{-1+4} = 2 - \frac{-4}{3}$$

$$= 2 + \frac{4}{3} = 3,33\ldots$$

$$y_1 = 4 - \frac{(-4)(1) - 0(4)}{(1)(-1) - (-1)(4)}$$

$$= 4 - \frac{-4}{-1-(-4}$$

$$= 4 - \frac{-4}{3}$$

$$= 4 + \frac{4}{3}$$

$$= 5,33$$