

S4)

x	1	2	4
y	6.3	8.6	9.8

$x = 1.3$ Lagrange!

$$L_0(x) = \frac{(x-x_1)(x-x_2)}{(x_0-x_1)(x_0-x_2)} = \frac{(x-2)(x-4)}{(1-2)(1-4)} = \frac{x^2-6x+8}{3}$$

$$L_1(x) = \frac{(x-x_0)(x-x_2)}{(x_1-x_0)(x_1-x_2)} = \frac{(x-1)(x-4)}{(2-1)(2-4)} = \frac{x^2-5x+4}{-2}$$

$$L_2(x) = \frac{(x-x_0)(x-x_1)}{(x_2-x_0)(x_2-x_1)} = \frac{(x-1)(x-2)}{(4-1)(4-2)} = \frac{x^2-3x+2}{6}$$

$$g(x) = L_0(x)y_0 + L_1(x)y_1 + L_2(x)y_2$$

$$g(x) = \frac{(x^2-6x+8)}{3} \cdot 6.3 + \frac{(x^2-5x+4)}{-2} \cdot 8.6 + \frac{(x^2-3x+2)}{6} \cdot 9.8$$

$$g(x) = -0.56x^2 + 4x - 2.86$$

$$g(1.3) = \underline{7.11}$$

S3)

x	2	4	6	8	10	12	14
y	3.33	4.66	5	5.33	5.55	5.71	5.83
z	0.6006	0.9009	1.2	1.5009	1.8018	2.1018	2.4014
x ²	4	8	36	64	100	144	196
x.z	11.2	3.6	7.2	12	18	25.22	33.62

$$g(x) = \frac{x}{c_1 + c_2 x} u(x)$$

$$u(x) = \frac{x}{g(x)} \Rightarrow \frac{x}{y_i}$$

$$\begin{bmatrix} n & \sum x \\ \sum x & \sum x^2 \end{bmatrix} \begin{bmatrix} c_1 \\ c_2 \end{bmatrix} = \begin{bmatrix} \sum z \\ \sum xz \end{bmatrix}$$

$$\begin{bmatrix} 7 & 56 \\ 56 & 560 \end{bmatrix} \begin{bmatrix} c_1 \\ c_2 \end{bmatrix} = \begin{bmatrix} 10.5072 \\ 100.80 \end{bmatrix} \Rightarrow \begin{matrix} c_1 = 0.3 \\ c_2 = 0.15 \end{matrix}$$

$$g(x) = \underline{\underline{\frac{x}{0.3 + 0.15x}}}$$