

3
b

$$\begin{aligned} \rightarrow P_3(x) &= f[x_0] + f[x_0, x_1](x - x_0) + \dots \\ &\quad \dots + f[x_0, x_1, x_2](x - x_0)(x - x_1) + \dots \\ &\quad \dots + f[x_0, \dots, x_3](x - x_0)(x - x_1)(x - x_2) \end{aligned}$$

↓

$$\begin{aligned} &= 1 + 1.71828(x-1) + 1.47625(x-1)(x-e) + \dots \\ &\quad \dots + 4.83499(x-1)(x-e)(x-e^2) \end{aligned}$$

$$\begin{aligned} P_3(x) &= a_0 + (x-x_0) \left(a_1 + (x-x_1) \left(a_2 + a_3(x-x_2) \right) \right) \\ &= \boxed{1 + (x-1) \left(1.71828 + (x-e) \left(1.47625 + 4.83499(x-e^2) \right) \right)} \end{aligned}$$