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Bsp.: (2) finde das IP durch  $(x_0, y_0) = (1, 2)$ ,

$$(x_1, y_1) = (3, 5) \quad \text{und} \quad (x_2, y_2) = (4, 4)$$

$\hookrightarrow$  wie Bsp. (1)!

Berechne die LP:

$$\begin{aligned} L_0^2(x) &= \frac{x - x_0}{x_0 - x_1} \cdot \frac{x - x_2}{x_0 - x_2} = \frac{x - 3}{1 - 3} \cdot \frac{x - 4}{1 - 4} \\ &= \frac{1}{6} (x - 3)(x - 4) \end{aligned}$$

$$\begin{aligned} L_1^2(x) &= \frac{x - x_0}{x_1 - x_0} \cdot \frac{x - x_2}{x_1 - x_2} = \frac{x - 1}{3 - 1} \cdot \frac{x - 4}{3 - 4} \\ &= -\frac{1}{2} (x - 1)(x - 4) \end{aligned}$$

$$\begin{aligned} L_2^2(x) &= \frac{x - x_0}{x_2 - x_0} \cdot \frac{x - x_1}{x_2 - x_1} = \frac{x - 1}{4 - 1} \cdot \frac{x - 3}{4 - 3} \\ &= \frac{1}{3} (x - 1)(x - 3) \end{aligned}$$

Damit

$$\begin{aligned} p_2(x) &= 2 \cdot L_0^2(x) + 5 \cdot L_1^2(x) + 4 \cdot L_2^2(x) \\ &= \dots = -2 + \frac{29}{6}x - \frac{5}{6}x^2 \\ &\quad (\equiv \text{Bsp. (1) f.}) \end{aligned}$$