

Najpierw obliczmy wielomiany Lagrange'a i ich pochodne

$$L_{2,0}(x) = \frac{(x-x_1)(x-x_2)}{(x_0-x_1)(x_0-x_2)} = \frac{50}{9}x^2 - \frac{175}{9}x + \frac{152}{9}, \quad L'_{2,0}(x) = \frac{100}{9}x - \frac{175}{9};$$

$$L_{2,1}(x) = \frac{(x-x_0)(x-x_2)}{(x_1-x_0)(x_1-x_2)} = \frac{-100}{9}x^2 + \frac{320}{9}x - \frac{247}{9}, \quad L'_{2,1}(x) = \frac{-200}{9}x + \frac{320}{9};$$

$$L_{2,2} = \frac{(x-x_0)(x-x_1)}{(x_2-x_0)(x_2-x_1)} = \frac{50}{9}x^2 - \frac{145}{9}x + \frac{104}{9}, \quad L'_{2,2}(x) = \frac{100}{9}x - \frac{145}{9}.$$

Wielomiany H są wtedy

$$H_{2,0}(x) = [1 - 2(x-1.3)(-5)] \left(\frac{50}{9}x^2 - \frac{175}{9}x + \frac{152}{9} \right)^2$$

$$= (10x - 12) \left(\frac{50}{9}x^2 - \frac{175}{9}x + \frac{152}{9} \right)^2,$$

$$H_{2,1}(x) = 1 \cdot \left(\frac{-100}{9}x^2 + \frac{320}{9}x - \frac{247}{9} \right)^2,$$

$$H_{2,2}(x) = 10(2-x) \left(\frac{50}{9}x^2 - \frac{145}{9}x + \frac{104}{9} \right)^2,$$