

$$-\frac{x^2}{8} + \frac{3}{2}x - 3 = 0$$

$$x^2 - 12x + 24 = 0$$

$$x_{1,2} = 6 \pm \sqrt{12} \begin{cases} \rightarrow 2.5359 \\ \rightarrow 9.4641 \end{cases}$$

$$f''(1.1) = 0.05914$$

$$f''(2.5359) = -0.412$$

$$f''(7.1) = 0.01156$$

$$f''(2) = -0.3679$$

The interpolation for $P_1(x)$ is actually in the interval $[1.1, 2]$.

$$|f''(\xi)| \leq 0.3679 \quad \xi \text{ in } [1.1, 2]$$

The maximum of

$$(x-1.1)(x-2)$$

is attained at the midpoint $\frac{1.1+2}{2} = 1.55$

$$|(x-1.1)(x-2)| \leq 0.2025$$

$$|E_1(x; f)| \leq \frac{|f''(\xi)|}{2!} |(x-1.1)(x-2)| \leq \frac{0.3679}{2} \cdot 0.2025$$

$$= 0.03725$$