

11.15

tisdag 27 december 2022

16:44

$$b) \quad f(x) = (1+x)^{-1} \quad f'(x) = -(1+x)^{-2} \quad f''(x) = 2(1+x)^{-3}$$

$$P_2(x) = f(0) + f'(0)x + f''(0) \cdot \frac{1}{2} x^2 + x^3 B(x)$$

$$\text{S: } P_2(x) = 1 + x + x^2 + x^3 B(x)$$

$$d) \quad f(x) = (1 - x/2)^{1/2} \quad f'(x) = \frac{1}{2} (1 - x/2)^{-1/2} \cdot (-1/2) = -\frac{1}{4} (1 - x/2)^{-1/2}$$

$$f''(x) = -\frac{1}{8} (1 - x/2)^{-3/2} \cdot (-1/2) = \frac{1}{16} (1 - x/2)^{-3/2}$$

$$P_2(x) = 1 - \frac{1}{4} x + \frac{1}{32} x^2 + x^3 B(x)$$