

Solución

$$\text{a) } f'(x) = \frac{-20}{(5x-2)^2}, \quad f''(x) = \frac{200}{(5x-2)^3}, \quad f'''(x) = \frac{-3000}{(5x-2)^4}$$

$$\text{b) } f'(x) = (2x-1)e^{1/x}, \quad f''(x) = \frac{2x^2-2x+1}{x^2}e^{1/x}, \quad f'''(x) = \frac{-1}{x^4}e^{1/x}$$

$$\text{c) } f'(x) = \frac{x+4}{2(x+1)(2-x)}, \quad f''(x) = \frac{x^2+8x-2}{2(x+1)^2(2-x)^2}, \quad f'''(x) = \frac{x^3+12x^2-6x+10}{(x+1)^3(2-x)^3}$$