Bài 2: Chữa bài tập

1, Ng Việt Hoàng (50%)

$f(x) = (x-1)(x-2)^2(x-3)^3$

$f'(1)$; $f'(2)$; $f'(3)$.

$(x-2)^2 = x^2 - 4x + 4$

$(x-3)^3 = x^3 - 9x^2 + 27x - 27$

8, a) $\begin{cases} x = 2t - t^2 \\ y = 3t - t^3 \end{cases}$ $\boxed{f'_x = \frac{df}{dx} = \frac{d}{dx}(f)}$

$y'_x = \frac{dy}{dx}$; $dy = y'_t\,dt$; $dx = x'_t\,dt$

$= \frac{y'_t\,\cancel{dt}}{x'_t\,\cancel{dt}} = \frac{y'_t}{x'_t} = \frac{3 - 3t^2}{2 - 2t} = \frac{3(1-t^2)}{2(1-t)} = \underline{\frac{3}{2}(1+t)}$

$\boxed{y''_{xx} \equiv (y'_x)'_x}$; $y''_{xx} = \frac{d(y'_x)}{dx}$

$d(y'_x) = (y'_x)'_t \cdot dt = \underbrace{\left[\frac{3}{2}(1+t)\right]'_t}\, dt = \frac{3}{2}\,dt$

$y''_{xx} = \frac{\frac{3}{2}dt}{2(1-t)\,dt} = \frac{3}{4}\frac{1}{(1-t)}$; $\frac{3}{2}$

t	0	1	2	3	...
x	0	1	0		
y	0	2	-2