2) $y = -x^5 + x^3 + 2x + 2$

$y = -x^5 + x^3 + 2x + 2$
$y' = -5x^4 + 3x^2 + 2$
$y'' = -20x^3 + 6x$
$y'' = -20x^3 + 6x$
$0 = -20x^3 + 6x$

$x = 0$

$x = -\frac{\sqrt{30}}{10}$

$x = \frac{\sqrt{30}}{10}$

$y = -x^5 + x^3 + 2x + 2, x = 0$

$y = -x^5 + x^3 + 2x + 2, x = -\frac{\sqrt{30}}{10}$ //

$y = -x^5 + x^3 + 2x + 2, x = \frac{\sqrt{30}}{10}$ //

1) $y = x - 3$

x	y
0	-3
1	-2
2	-1

$m = 1$

Sé Perpendiculare
Passa por $(-1, 1)$

$m_s = -1$

$y - y_0 = m(x - y_0)$

$y - 1 = -1(x + 1)$

$y = -x$

$$\begin{cases} x - 3 = y \\ -x = y \end{cases}$$

$2y = -3$

$y = -3/2$ ///

$x = 3/2$ //

3) $a(t) = \cos(3t) - \operatorname{sen}(2t)$

integral$(\cos(3t) - \operatorname{sen}(2t))\,dx = x\cos(3\cdot t) - x\operatorname{sen}(2t) +$ constante

integral$(\cos(3\cdot 0) - \operatorname{sen}(2\cdot 0)\,dx = x\cos(3\cdot 0) - x\operatorname{sen}(2\cdot 0) +$ constante

$v(t) = \frac{\operatorname{sen}(3t)}{3} + \frac{\cos(2t)}{2} + C$

$v_0 = \frac{\operatorname{sen}(3\cdot 0)}{3} + \frac{\cos(2\cdot 0)}{2} + C = 1 \quad C = 1/2$

$v(t) = \frac{\operatorname{sen}(3t)}{3} + \frac{\cos 2t}{2} + \frac{1}{2}$

integrando $v(t)$ para achar $f(t)$

$y(t) = \frac{\operatorname{sen}(2t)}{4} - \frac{\cos 3t}{9} + \frac{t}{2} + C$

Para $J(0) = 2$

$J(0) = \frac{\operatorname{sen}(2\cdot 0)}{4} - \frac{\cos(3.0)}{9} + \frac{0}{2} + C = 2$

$-\frac{1}{9} + C = 2 \quad C = \frac{19}{9} \quad J = \frac{\operatorname{sen}(2t)}{4} - \frac{\cos(3t)}{9} + \frac{t}{2} + \frac{19}{9}$

7) $U = e^{x-3}$

$\frac{du}{dx} = e^{x-3}$

$du = dx - e^{x-3}$

$\int_0^1 \cancel{e^{x-3}} - Sen(U^2) - \frac{du}{\cancel{e^{x-3}}}$

$\int_0^1 Sen(U^2) . du$

$\left[F\left(\frac{e^{x-3}}{4}\right) \right]_0^1$

$F\left(\frac{e^{1-3}}{4}\right) - F\left(\frac{e^{0-3}}{4}\right)$

$F\left(\frac{e^{-2}}{4}\right) - F\left(\frac{e^{-3}}{4}\right)$ //

4) $f'(x) = \frac{2x}{(x^2+3)^3}$

$f = \int - \frac{x}{}$

$\int \frac{2x}{(x^2+3)^3} dx = -\frac{1}{2(x^2+3)^2} + \text{constante}$ $U = 2(x^2+3)^2$

$\int (x^2+5)^2 dx = \frac{x^5}{5} + 2x^3 + 9x + \text{constante}$

$\frac{0^5}{5} + 2 \cdot 0^3 + 9 \cdot 0 + C = 1$

$C = 1$

$f'(1) = \frac{2 \cdot 1}{(1^2+3)^3}$ $f' \neq \frac{1}{32}$

8) $\int \frac{1}{2x-3} \operatorname{Sen}(2x-3)\, dx$

$g = 2x-3$

$dG = 2dx \rightarrow \frac{dG}{2} \cdot dX$

$\int \frac{1}{g} \operatorname{Sen} g \; dG \; \frac{1}{2}$

$\frac{1}{2} \int \frac{1}{g} \operatorname{Sen} g \; dg$

$dU = \frac{1}{g} \quad U = \ln|g|$

$U = \operatorname{Sen} g \quad dU = \cos g \cdot dG$

$\frac{1}{2} (\ln|g| \operatorname{Sen} - f(g) + C)$

$\frac{\ln|g| - \operatorname{Sen} g}{2} - \frac{f(g) + C}{2} \quad g = 2x-3$

$\frac{\ln|2x-3| \operatorname{Sen}(2x-3)}{2} - \frac{f(2x-3)}{2} + \text{Constante}$

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