$$y=\frac{2}{x-1} \Rightarrow y'=\frac{(0)\cdot(x-1)-(1)\cdot(2)}{(x-1)^2}$$

$$=\frac{0-2}{x^2+1-2x}=\frac{-2}{(x-1)^2}$$

$$y=\frac{x^2}{2-x^3} \Rightarrow y'=\frac{(2x)(2-x^3)-(-3x^2)(x^2)}{(2-x^3)^2}=$$

$$=\frac{9x-2x^4+3x^4}{(2-x^3)^2}=\frac{x^4+9x}{(2-x^3)^2}$$

182) $y=\frac{2}{(x+3)^2} \Rightarrow y'=\frac{(0)(x+3)^2-(2x+6)\cdot 2}{(x+3)^4}=\frac{-2(x+3)\cdot 2}{(x+3)^4}$

x^2+6x+9 $\quad -4x+12$ $\quad -2(x+3)$

$$=\frac{-4(x+3)}{(x+3)^4}=\frac{-4}{(x+3)^3}$$

$$y=\frac{x^2-3x+5}{x^2-1} \Rightarrow y'=\frac{(2x-3)(x^2-1)-(2x)(x^2-3x+5)}{(x^2-1)^2}=$$

$$=\frac{2x^3-3x^2-2x+3-2x^3+6x^2-10x}{(x^2-1)^2}=\frac{+3x^2-12x+3}{(x^2-1)^2}$$

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

$$y=2+\frac{x}{6+2x}-\frac{x^2-1}{x+3}$$

$$=\frac{4(x+3)+x-2(x^2-1)}{2(x+3)}=\frac{9x+12+x-2x^2+2}{2(x+3)}=$$

$$=\frac{-2x^2+5x+19}{2(x+3)} \Rightarrow y'=\frac{(-4x+5)(2x+6)-(2)(-2x^2+5x+19)}{4(x+3)^2}=$$

$2x+6$

$$=\frac{-8x^2-24x+15x+30+4x^2-15x-28}{4(x+3)^2}=\frac{-4x^2-24x+2}{4(x+3)^2}=$$

$$=\frac{-2(2x^2+12x-1)}{4(x+3)^2}=\frac{-(2x^2+12x-1)}{2(x+3)^2}$$

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

$y = -x(x^2 - 2x + 1)$

$y = -x(x-1)^2$

$D =]-\infty ; +\infty[$

$D = \{\forall x \in \mathbb{R}\}$

INT ASSE x $(0;0)(1;0)$

INT ASSE y $\begin{cases} x=0 & (0;0) \\ y=0 \end{cases}$

$-x = 0$

$x = 1$ doppia

	0		1	
$-x$	+	0	−	−
$(x-1)^2$	+	+	0	+
y	+	−	−	

$-3x^2 + 3x + x - 1$

$-3x(x-1) + 1(x-1)$

$(x-1)(-3x+1)$

$y' = -3x^2 + 4x - 1$

$y' = (-3x + 1)(x-1)$

$x = +\frac{1}{3}$

$x = +1$

	$+\frac{1}{3}$		$+1$	
$(-3x+1)$	+	0	−	−
$(x-1)$	−	−	0	+
y'	−	0	+	0	−
	↘	m	↗	M	↘

$f(+\frac{1}{3}) =$

$f(+1)$

TANGENTE =

$y = mx + q$