My histo 5 -Discente ; Paulo Henrique Diviz de hima Alencar. (119) Resolución : tomos que  $\Rightarrow$   $d'(x_0)'' = \frac{f(x) - f(x_0)}{x - x_0}$  ou  $f'(x_0) = \lim_{\Delta x \to 0} \frac{f(x_0 - \Delta x) - f(x_0)}{\Delta x}$ Usando a 1°, teremos:  $f'(1) = \lim_{x \to 2} = x^2 + 2x + 5 - f(1)$ d(1)=12+201+5=8 -3  $f'(1) = him = \frac{x^2 + 2x + 5 - 8}{x - 1}$  $-9 q'(1) = \lim_{x \to 1} \frac{x^2 + 2x - 3}{x - 1}$ % (X-1) 0 (X+3) = teno agora -> f'(1) = lim (x/1) (x+3) -> f'(1) = lim 4 = 4

122) Resolução :

 $\frac{\int '(x) = \lim_{x \to x_0} \frac{\int (x) - \int (x_0)}{x - x_0} \rightarrow \lim_{x \to 0} \frac{1 \times 1 - \int (0)}{x - 0} \rightarrow \lim_{x \to 0} \frac{1 \times 1}{x}$ 

|X|= { x ne x > 0 proster personal de module.

 $\lim_{X\to 0^+} \frac{x}{x} = 1$   $+ = \lim_{X\to 0} \frac{|x|}{x} = \frac{1}{x} = \lim_{X\to 0} \frac{|x|}{x} = \frac{1}{x}$ 

 $\lim_{x \to 0^-} \frac{-x}{x} = -1$ 



f) 
$$d(x) = \sqrt[3]{x^2}$$
,  $x_0 = 2\sqrt{2}$   
 $d(x_0) \Rightarrow d(2\sqrt{2}) = \sqrt[3]{(2\sqrt{2})^2} \Rightarrow d(2\sqrt{2}) = \sqrt[3]{8} \Rightarrow d(2\sqrt{2}) = 2$   
 $d(x_0) \Rightarrow d(2\sqrt{2}) = \sqrt[3]{(2\sqrt{2})^2} \Rightarrow d(2\sqrt{2}) = 2$   
 $d(x_0) \Rightarrow d(x_0) \Rightarrow d$ 

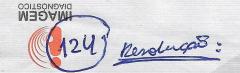
$$y-y_0 = 6(x_0)(x-x_0)$$
  
 $y-(-1) = 0 \cdot (x-1)$ 

$$f(x_0) \rightarrow f(1) = 1^2 - 2 \cdot 1 = -1$$

**b)** 
$$f(x) = x^2 - 2x$$
,  $x_0 = 1$ 

$$\Rightarrow \lim_{x \to 1} \frac{x-1}{(x-1)(\sqrt{x}+1)} \Rightarrow \lim_{x \to 1} \frac{1}{2} = \frac{1}{2}$$

$$\frac{1}{4}(1) = \lim_{X \to 1} \frac{\sqrt{X} - 1}{X - 1} \Rightarrow \frac{\sqrt{X} - 1}{X - 1} * \frac{\sqrt{X} + 1}{\sqrt{X} + 1} = \frac{(\sqrt{X})^2 \cdot 1^2}{(X - 1)(\sqrt{X} + 1)} \Rightarrow$$



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

 $X = \frac{2 \pm 0}{2} \left( \begin{array}{c} x_1 = 1 \\ x_2 = 1 \end{array} \right) \left( \begin{array}{c} x_1 = 1 \\ x_2 = 1 \end{array} \right) \left( \begin{array}{c} x - x_1 \\ x - 1 \end{array} \right) \left( \begin{array}{c} x - x_2 \\ x - 1 \end{array} \right)$ 

D= (-2)2-4-10 L

 $\lim_{x\to 1} \frac{x^2 - 2x + 1}{x - 1} \to \lim_{x\to 1} \frac{(x-1)(x-1)}{(x-1)}$ 

him (x-1) = 0

$$f(x)=5$$
, salenes que:  $f(x)=C \Rightarrow g'(x)=0$   
:. como  $f(x)=5 \Rightarrow f'(x)=0$ 

$$g(x) = x^6$$
, salens que:  $f(x) = x^h = 0$   $J'(x) = n \cdot x^{n-l}$   
2. como  $g(x) = x^6 = 0$   $g'(x) = 6 \cdot x^5$ 

$$h(X) = X^{15}$$
, sahemo que:  $f(X) = X^{n-1} \implies f'(X) = n \cdot x^{n-1}$   
... Cono  $h(X) = X^{15} \implies h'(X) = 15 \cdot X^{14}$ 

$$g(x) = tgx \rightarrow \left[tgx = \frac{senx}{cosx}\right]$$

$$g(x) = \frac{sen x}{cos x}$$