Comments on the last lecture

Question: Compute the limit.

(a) $\lim\limits_{x\to\infty} \dfrac{4a^{-x}+2b}{3c+a^{-2x}} = \dfrac{\frac{1}{\infty}+2b}{3c+\frac{1}{\infty}} = \dfrac{2b}{3c}$

(b) $\lim\limits_{x\to c} \dfrac{|x-c|}{2x-2c} = \lim\limits_{x\to c^-} \dfrac{c-x}{2x-2c} = \lim -\dfrac{1}{2} = -\dfrac{1}{2}$.

(c) $\lim\limits_{x\to a} \dfrac{x^2-a^2}{x(x+a)} = \lim\limits_{x\to a} \dfrac{(x-a)(x+a)}{x(x+a)} = \dfrac{x-a}{x} = 0$

2. differentiable?   Continuous?

$\lim\limits_{x\to c} \dfrac{f(x)-f(c)}{x-c}$

$(x\to c^+)$

$\oplus x\to c$.

$\lim\limits_{x\to c} f(x) = \lim\limits_{x\to c^+} f(x) = f(c)$

Not Eequlr !!!

$$y = \begin{cases} x & x \geqslant 0 \\ 0 & x < 0 \end{cases}$$ (Relu function)

Ex:

In genl $\Rightarrow$ Cntn's $\Longleftarrow$ (differble) $\Rightarrow$ stupid ?!?