Instituto Tecnologico Superior de Zongolica

Calculo Diferencial 103 - "A"

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Ing. Sistemas Computacionales

Extensión Naoales

Actividad 3.1

"Limites"

Calculo diferencial 103 A Mixto

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1.- $\lim_{x \to 9} \frac{x-9}{\sqrt{x}-3}$

$\frac{9-9}{\sqrt{9}-3}$

$\frac{0}{0}$

2.- $\lim_{x \to 4} \frac{x-4}{\sqrt{x}-2}$

$\frac{4-4}{\sqrt{4}-2}$

$\frac{0}{0}$

3.- $\lim_{x \to -1} \frac{x^2-2x-3}{x+1}$

$\lim_{x \to -1} \left(x^2-2x-3\right)$

$\lim_{x \to -1} (x+1) = 0$

$\lim_{x \to -1} \left(\frac{x^2-2x-3}{x+1}\right)$

$\lim_{x \to -1} \left(\frac{x(x+1)-3(x+1)}{x+1}\right)$

$\lim_{x \to -1} \left(\frac{(x+1)\cdot(x-3)}{x+1}\right)$

$\lim_{x \to -1} (x-3)$

$-1-3$

-4

④ $\lim_{x \to 16} \frac{\sqrt{x} - 4}{x - 16}$

$\frac{\sqrt{16} - 4}{16 - 16}$

$\frac{2}{0}$

⑦ $\lim_{x \to -1} \frac{x^2 - x}{x^2 + 1}$

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

$\frac{1}{1}$

⑤ $\lim_{x \to 9} \frac{2\sqrt{x} - 6}{x - 9}$

$\frac{2\sqrt{4} - 6}{4 - 9}$

$\frac{-2}{-5}$

$\lim_{x \to 2} \frac{x^2 - 5x + 6}{x - 2}$

$\lim_{x \to 2} (x^2 - 5x + 6)$

$\lim_{x \to 2} (x - 2)$

0

⑪ $\lim_{x \to 2} \left(\frac{x^2 - 5x + 6}{x - 2} \right)$

$\lim_{x \to 2} \left(\frac{x^2 - 2x - 3x + 6}{x - 2} \right)$

$\lim_{x \to 2} \left(\frac{x \cdot (x - 2) - 3(x - 2)}{x - 2} \right)$

$\lim_{x \to 2} \left(\frac{(x - 2) \cdot (x - 3)}{x - 2} \right)$

$\lim_{x \to 2} (x - 3) = -1$

(8) $\lim_{s \to 4} \frac{\sqrt{s} - 2}{s - 4}$

$\lim_{s \to 4} \left(\sqrt{s} - 2 \right)$

$\lim_{s \to 4} (s - 4)$

$\frac{0}{0}$

(9) $\lim_{t \to} \frac{2 - \sqrt{4 - t}}{t}$

$\lim_{t \to 0} \left(2 - \sqrt{4 - t} \right)$

$\lim_{t \to 0} (t)$

$\frac{0}{0}$

(10) $\lim_{x-2} \frac{x^2 + 7x + 10}{x + 2}$

$\frac{2^2 + 7 \cdot 2 + 10}{2 + 2}$

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