

**Universidad Del Sureste
Campus Comitán
Licenciatura En Medicina Humana**

Materia:
Biomatemáticas

Nombre del trabajo:
Actividades en clase Poniendo límites

Alumno:
Oscar Manuel Moreno Maza

Grupo:
A

Grado:
2

Docente:

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- Fisiopatología

Libros + Fisiopatología De Parth.
+ Patología Humana = Robbins 10 edición.

Biomatemáticas

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$$\lim_{x \rightarrow 2.5} x^2$$

$$\beta) \lim_{x \rightarrow 2.5} (2.5)^2 = \lim_{x \rightarrow 2.5} 6.25$$

$$\begin{array}{r} x \ 2.5 \\ \underline{2.5} \\ 1 \ 2.5 \\ \underline{5 \ 0} \\ 6.25 \end{array}$$

$$3) \lim_{x \rightarrow 3} x^2 = \lim_{x \rightarrow 3} (3)^2 = \lim_{x \rightarrow 3} (9)$$

$$2) \lim_{x \rightarrow 1.5} (1.5)^2 = \lim_{x \rightarrow 1.5} 2.25$$

$$\begin{array}{r} 1.5 \\ \underline{1.5} \\ 75 \\ \underline{15} \\ 2.25 \end{array}$$

$$4) \lim_{x \rightarrow 1} \frac{x^2 - 1}{x - 1} = \lim_{x \rightarrow 1} \frac{1 - 1}{1 - 1}$$

$$x \rightarrow 1$$

$$\lim = \frac{0}{0} = 0$$

$$1) \lim_{x \rightarrow 2.5} x^2 = \lim_{x \rightarrow 2.5} 6.25$$

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

$$\begin{array}{r} x^2 + x \\ \underline{-x - 1} \\ x^2 - 1 \end{array}$$

$$2) \lim_{x \rightarrow 1.5} x^2 = \lim_{x \rightarrow 1.5} 2.25$$

$$\begin{array}{r} 7.6 \\ \underline{7.6} \\ 956 \end{array}$$

$$3) \lim_{x \rightarrow 3} x^2 = \lim_{x \rightarrow 3} 9$$

$$\begin{array}{r} 7.457.76 \\ \underline{x \ 7 \ 4} \\ 29 \ 6 \end{array}$$

4

$$\begin{array}{r} 518 \\ \underline{x \ 7 \ 4} \\ 29 \ 6 \\ \underline{518} \\ 5476 \end{array}$$

$$\begin{array}{r} x \ 7 \ 2 \\ \underline{7 \ 2} \\ 14 \ 4 \\ \underline{50 \ 4} \\ 5184 \end{array}$$

$$\begin{array}{r} 1) \ 51.87 \\ 2) \ 59.76 \\ 3) \ 57.76 \end{array}$$

pH	6.6	x^2
pH	7.6	x^3
pH	7.8	x^3
pH	8	x^4

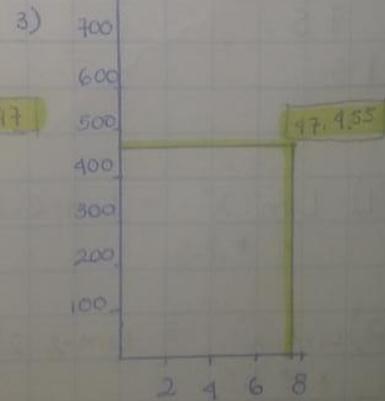
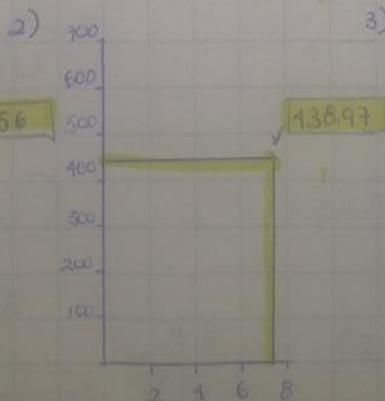
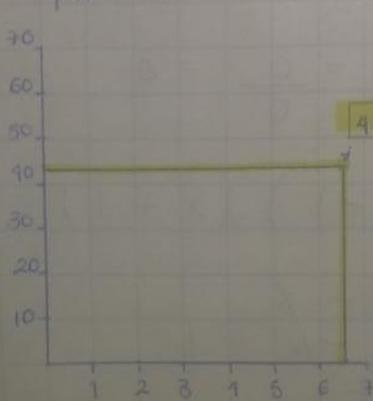
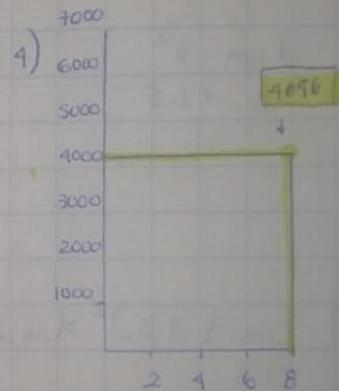
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$$\lim_{pH \rightarrow 6.6} x^2 = \lim (6.6)^2 = 43.56$$

$$\lim_{pH \rightarrow 7.6} x^3 = \lim (7.6)^3 = 438.97$$

$$\lim_{pH \rightarrow 7.8} x^3 = \lim (7.8)^3 = 474.55$$

$$\lim_{pH \rightarrow 8} x^4 = \lim (8)^4 = 4096$$



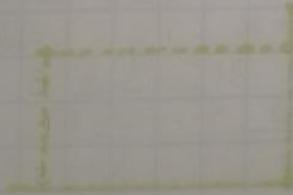
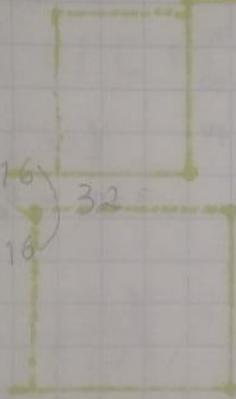
Febrero 9 del 2022

$$\lim_{pH \rightarrow 7.6} x^2 = \lim (7.6)^2 = \lim x = 57.76$$

$$\lim_{pH \rightarrow 7.8} x^2 = \lim (7.8)^2 = \lim x = 60.84$$

$$\lim_{pH \rightarrow 8} x^2 = \lim (8)^2 = \lim x = 64$$

$$\begin{array}{r} 10968 \\ 5128 \\ 648 \\ 118 \end{array} \Bigg| \begin{array}{l} 16 \\ 32 \\ 16 \end{array}$$



Límites Básicos

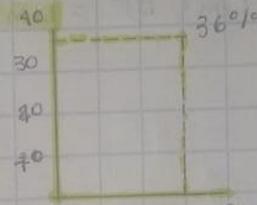
$$1) \lim_{x \rightarrow d} c = c$$

$$2) \lim_{x \rightarrow d} x = d$$

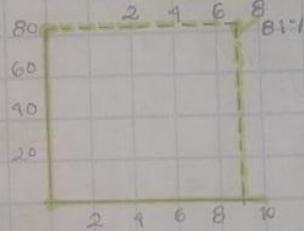
$$3) \lim_{x \rightarrow d} x^n = d^n$$

$$1) \lim_{x \rightarrow a} \sqrt[n]{x} = \sqrt[n]{a}$$

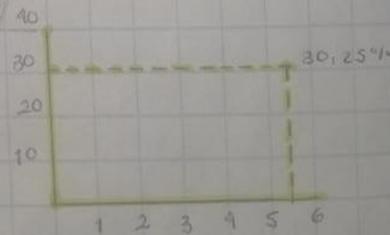
$$1) \lim_{x \rightarrow 6} x^2 = 6(6) = 36 \cdot 1 //$$



$$2) \lim_{x \rightarrow 9} x^2 = 9(9) = 81 \cdot 1 //$$



$$3) \lim_{x \rightarrow 5.5} x^2 = 5.5(5.5) = 30.25 \cdot 1 //$$



$$\rightarrow \lim_{x \rightarrow 3} x = [2(x) \cdot 4(x)]$$

$$\rightarrow \lim_{x \rightarrow 3} x = \left[\frac{2 \cdot \lim x}{x+3} \right] \left[\frac{4 \lim x}{x+3} \right]$$

$$\lim_{x \rightarrow 3} x = [2(3)] [4(3)]$$

$$\lim_{x \rightarrow 3} x = [6] [12]$$

$$\lim_{x \rightarrow 3} x = [72]$$

Tarea

$$\lim_{x \rightarrow 2} x = \frac{4x+2x}{3x-2x}$$

$$\lim_{x \rightarrow 2} [2x]^3$$

$$\lim_{x \rightarrow 2} \sqrt{2x}$$

Artículo 2

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$$\rightarrow \lim_{x \rightarrow 2} \frac{4x}{8x} = \frac{4(2)}{8(2)} = \frac{8}{16} = 0.5$$

$$\rightarrow \lim_{x \rightarrow a} [ax]^n = \lim_{x \rightarrow a} x^n = [a]^n$$

$$\rightarrow \lim_{x \rightarrow a} \sqrt[n]{fx} = \lim_{x \rightarrow a} \sqrt[n]{x} = \sqrt[n]{a}$$

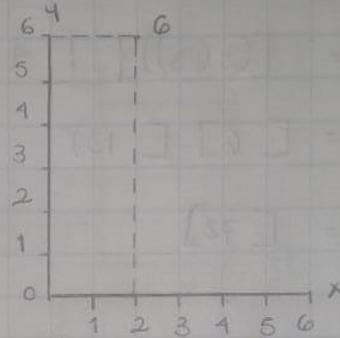
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Tarea

$$\lim_{x \rightarrow 2} \frac{4x + 2x}{3x - 2x} = \frac{4(2) + 2(2)}{3(2) - 2(2)} = \frac{8 + 4}{6 - 2} = \frac{12}{4} = 3$$

$$\frac{4(2) + 2(2)}{3(2) + 2(2)} = \frac{8 + 4}{6 + 4} = \frac{12}{10} = \frac{6}{5}$$

$$\lim_{x \rightarrow 2} x = 6$$

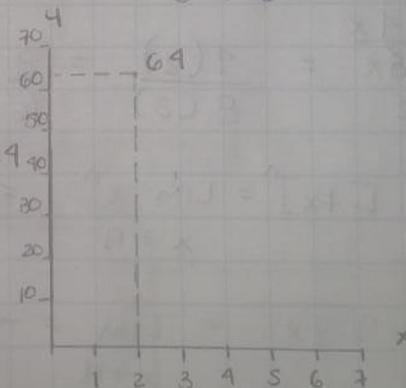


$$\lim_{x \rightarrow 2} x = [2x]^3$$

$$\lim_{x \rightarrow 2} x = [2(2)]^3$$

$$\lim_{x \rightarrow 2} x = [4]^3$$

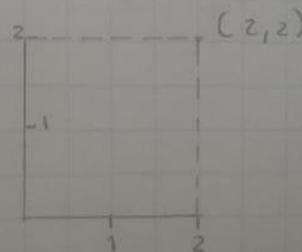
$$\lim_{x \rightarrow 2} x = 64$$



$$\lim_{x \rightarrow 2} x = \sqrt{2x}$$

$$\lim_{x \rightarrow 2} x = \sqrt{2(2)} = \lim_{x \rightarrow 2} x = \sqrt{4}$$

$$\lim_{x \rightarrow 2} x = 2$$

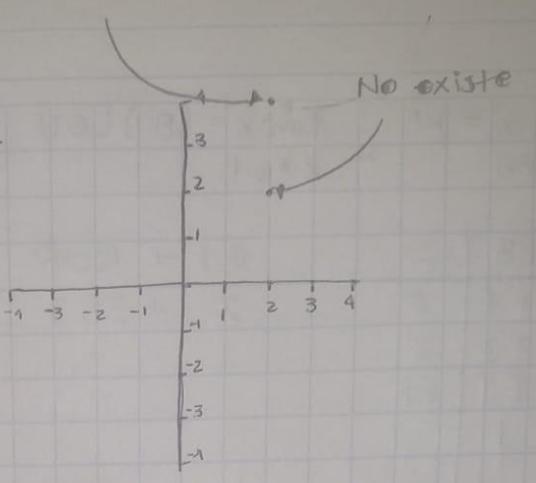


$$f(x) = \begin{cases} x^2 & \text{si } x < 2 \\ 4 & \text{si } x = 2 \\ 6 - 2 & \text{si } x > 2 \end{cases}$$

$\lim_{x \rightarrow 2^-} = (2)^2 = \underline{4}$

$\lim_{x \rightarrow 2} = 4$

$\lim_{x \rightarrow 2^+} 6 - 4 = \lim_{x \rightarrow 2^+} = 2$



$$\lim_{x \rightarrow 6.1} x = KL \quad \lim_{x \rightarrow 6.1} x = (80)(6.1) = \lim_{x \rightarrow 6.1} x = \underline{488} //$$

488	2
244	2
122	2
61	61
1	

6.1 → 100%
2 → 32.7

Limites Laterales.

• Cuando x se acerca a a por la derecha.

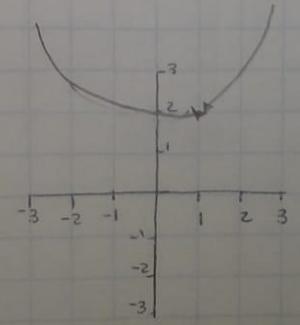
$$\lim_{x \rightarrow a^+} f(x) \quad \text{ó} \quad \lim_{x \rightarrow 0^+} \frac{|x|}{x}$$

• Cuando x se acerca a a por la izquierda.

$$\lim_{x \rightarrow a^-} f(x) \quad \text{ó} \quad \lim_{x \rightarrow 0^-} \frac{|x|}{x}$$

$$\lim_{x \rightarrow 1^+} \frac{|x|}{x} = \lim_{x \rightarrow 1^+} = \underline{2} //$$

$$\lim_{x \rightarrow 1^-} (x^2 + 1) = 1 + 1 = \underline{2} //$$



Tarea.

$$\lim_{x \rightarrow 2} \frac{4x + 2x}{3x + 2x} = \frac{4(2) + 2(2)}{3(2) + 2(2)} = \frac{8 + 4}{6 + 4} = \frac{12}{10} = \frac{6}{5}$$

$$\lim_{x \rightarrow 2} x = 2$$

$$\lim_{x \rightarrow 2} (2x)^3 = (4)^3 = 64$$

$$\lim_{x \rightarrow 2} \sqrt{2x} = \sqrt{4} = 2$$

