



PASIÓN POR EDUCAR



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

Tema: Poniendo Límites

Materia: Biomatemáticas

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Grupo: "B"

**Grado: Segundo semestre
Nombre del profesor: Rosvani
Margine Morales Irecta**

Biogéomica

1ra Tarea

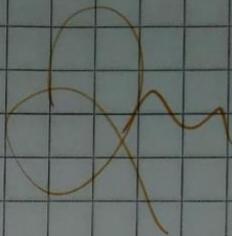
Ejercicios Resultado

$$A = (2.5)^2 = 6.25$$

$$C(1.5)^2 = 2.25$$

$$(3)^2 = 9$$

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



PH 6.6

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$$\lim_{x \rightarrow 6.6} x^2 = \underline{43.56}$$

$$\lim_{x \rightarrow 7.6} x^2 = \underline{57.76}$$

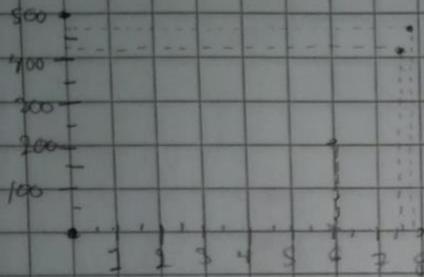
$$\lim_{x \rightarrow 7.8} x^2 = \underline{60.84}$$

$$\lim_{x \rightarrow 8} x^2 = \underline{16}$$

$$(7.6)^3 = 438.976$$

$$(7.8)^3 = 474.552$$

$$(8)^3 = 4096$$



$$\frac{474}{43} = 11$$

$$4096$$

$$\begin{array}{r} 4096^2 \\ \hline 2043^2 \\ 1024^2 \\ 512^2 \\ 256^2 \\ 128^2 \\ 64^2 \\ 32^2 \\ 16^2 \\ 8^2 \\ 4^2 \\ 2^2 \\ 1 \end{array}$$

$$100 \rightarrow 4096$$

$$2$$

Ejercicios

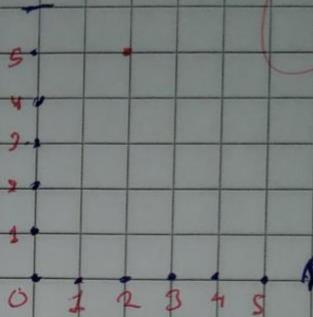
$$1- \lim_{x \rightarrow 2} \frac{x^2 + x - 6}{x - 2}$$

$$\lim = \frac{(x-2)(x+3)}{(x-2)} = (x+3)$$

$$\frac{(2)^2 + 2 - 6}{2 - 2} \quad 2 + 3 = 5$$

$$\frac{4 + 2 - 6}{0}$$

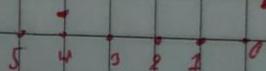
$$\frac{6 - 6 - 0}{0}$$



$$2- \lim_{x \rightarrow -4} \frac{x^2 + 5x + 4}{x^2 + 3x - 4}$$

$$\begin{aligned} \lim &= \frac{(x+4)(x+1)}{(x-1)(x+4)} \\ &= \frac{(x+1)}{(x-1)} = \frac{-4+1}{-4-1} \\ &= \frac{-3}{-5} = \frac{0.6}{1} \end{aligned}$$

$$\begin{aligned} S_{us} &= (-4)^2 + 5(-4) + 4 \\ &= (-4)^2 + 3(-4) - 4 \\ &= 16 - 20 + 4 = 0 \\ &= 16 - 12 - 4 = 0 \end{aligned}$$

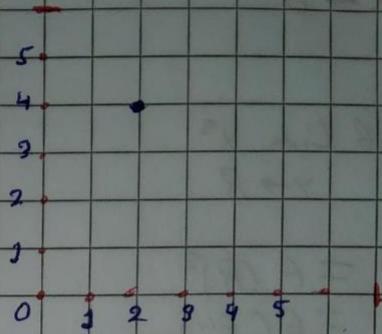


3-

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

$$\text{Sub. } \frac{(4)^2 - 4}{2 - 2} = \frac{4 - 4}{0} = \frac{0}{0}$$

$$\begin{aligned} \lim \frac{(x-2)(x+2)}{(x-2)} \\ = (x+2) = 2+2 = \underline{4} \end{aligned}$$



Propiedades básicas de los límites

$$\lim_{x \rightarrow a} c = c$$

$c = \text{constante}$

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

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

$$\lim_{x \rightarrow a} x^n = a^n$$

$$\begin{aligned} \lim_{x \rightarrow 2} x^2 &= 4 \\ x \rightarrow 2 &= (2)^2 = 4 \end{aligned}$$

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

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

3er trabajo

Ejercicios

• Ph 6

$$\lim_{x \rightarrow 6} f(x)$$

$$x \rightarrow 6$$

$$6 \lim(x)$$

$$x \rightarrow 6$$

$$6(6) = \underline{36}$$

• Ph 9

$$\lim_{x \rightarrow 9} g(x)$$

$$x \rightarrow 9$$

$$9 \lim(x)$$

$$x \rightarrow 9$$

$$9(9) = \underline{81}$$

• Ph 5.5

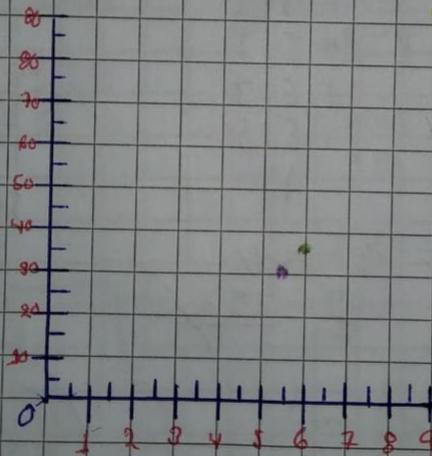
$$\lim_{x \rightarrow 5.5} h(x)$$

$$x \rightarrow 5.5$$

$$5.5 \lim(x)$$

$$x \rightarrow 5.5$$

$$5.5(5.5) = \underline{30.25}$$



pO₂ mm Hg

• pH 6

$$\begin{aligned} &\text{Lim } 80(x) \\ &x \rightarrow 6 \\ &80 \text{ Lim}(x) \\ &80(6) = 480 \end{aligned}$$

1	80	2
2	40	2
1	20	2
6	0	2
3	0	2
1	5	3
5	5	
1		

6 - 100%
2 - 33%

• pH 9

$$\begin{aligned} &\text{Lim } 80(x) \\ &x \rightarrow 9 \\ &80 \text{ Lim}(x) \\ &80(9) = 720 \end{aligned}$$

7	20	2
3	60	2
1	80	2
9	0	2
4	5	3
1	5	3
5	5	
1		

9 - 100%
2 - 32%

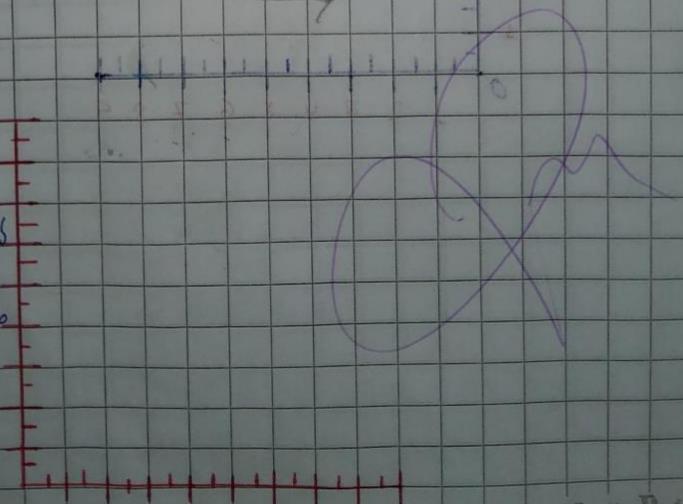
• pH 5.5

$$\begin{aligned} &\text{Lim } 80(x) \\ &x \rightarrow 5.5 \\ &80 \text{ Lim}(x) \\ &80(5.5) = 440 \end{aligned}$$

4	40	2
1	10	2
5	5	5
1	1	11
1		

5.5 - 100%
2 - 36%

Quando se tem um pH de 5.5 com uma pO₂ de 115 se tem uma saturação de O₂ de 36%.



Harry Potter

$$\lim_{x \rightarrow 2} 3x + 4x \leftarrow \text{Regras de propriedade da soma}$$

$$= 3(2) + 4(2)$$

$$= 6 + 8$$

$$= 14$$

$$\lim_{x \rightarrow 4} \frac{3x}{4x}$$

$$\lim_{x \rightarrow 2} (4x); (3x)$$

$$\frac{3(4)}{4(4)} = \frac{12}{16} = \frac{6}{8} = \frac{3}{4}$$

$$4 \lim_{x \rightarrow 2} 2 \cdot 3 \lim_{x \rightarrow 2} 2$$

$$3 \lim_{x \rightarrow 4} 4 \cdot 4 \lim_{x \rightarrow 4} 4$$

$$(4)(2) \cdot (3)(2)$$

$$= 8 \cdot 6$$

$$3(4) \cdot 4(4)$$

$$= 12 \cdot 16$$

$$= (8)(6)$$

$$= 48$$

$$= 12 \cdot 16$$

$$\lim_{x \rightarrow 4} 3x \cdot 6x$$

$$\lim_{x \rightarrow 2} \frac{3x - 12}{4x - 12}$$

$$3 \lim_{x \rightarrow 4} 4 \cdot 6 \lim_{x \rightarrow 4} 4$$

$$\frac{3(2) - 12}{6 - 12} \cdot \frac{4(2) - 12}{18 - 12}$$

$$\frac{6 - 12}{-6} \cdot \frac{8 - 12}{6}$$

$$\frac{-6}{-6} \cdot \frac{-4}{6}$$

$$= 1 \cdot \frac{-4}{6}$$

$$= -\frac{2}{3}$$

$$(3)(4) \cdot (6)(4)$$

$$= 12 \cdot 24$$

$$= 12 \cdot 24$$

$$= 288$$

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

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

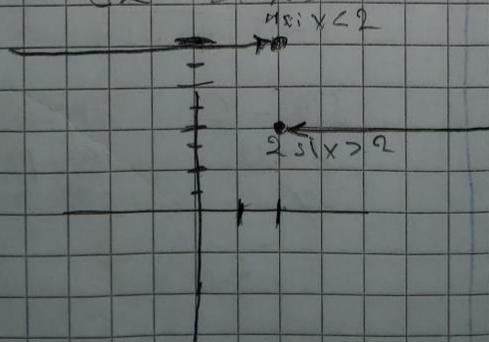
$$\lim_{x \rightarrow 2} \sqrt[3]{8}$$

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

Calcula lim $f(x)$

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

$$\begin{cases} 4 & \text{si } x < 2 \\ 4 & \text{si } x = 2 \\ 2 & \text{si } x > 2 \end{cases}$$



$$p(x) \begin{cases} x^2 + 1 & \text{si } x < 1 \\ 2x & \text{si } x > 1 \end{cases}$$

$$\begin{cases} 2 & \text{si } x < 1 \\ 2 & \text{si } x > 1 \end{cases}$$

