Universidad del Sureste

Campus Comitán de Domínguez Chiapas

Licenciatura en Medicina Humana

Tema: Poniendo Limites.

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Grupo: “B” **Grado:** Segundo semestre.

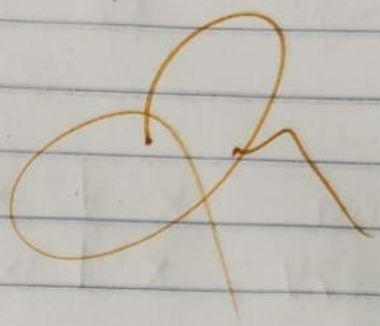
Materia: Biomatemáticas.

Nombre del profesor: Dra. Rosvani Margine Morales Irecta.

Comitán de Domínguez Chiapas a 20 de febrero del 2022

- $\lim_{x \to 2.5} x^2 = (2.5)^2 = 6.25$

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



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

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

- $\lim_{x \to 6.6} x^2 = (6.6)^2 = 43.56$

- $\lim_{x \to 7.6} x^2 = (7.6)^2 = 57.76$

- $\lim_{x \to 7.8} x^2 = (7.8)^2 = 60.84$

- $\lim_{x \to 8} x^2 = (8)^2 = 64$

- $\lim_{x \to 7.6} x^3 \quad (7.6)^3 = 439.9$

- $\lim_{x \to 7.8} x^3 \quad (7.8)^3 = 474.5$

- $\lim_{x \to 8} x \quad (8)^4 = 4,096$

4,096 | 2

Regla de 3

8 → 100%

2 → 25%

¿Cómo se saca el mínimo común divisor?

1 $\lim_{x \to 2} \frac{x^2 + x - 6}{x - 2}$ $\frac{4 + 2 - 6}{2 - 2} = \frac{0}{0}$

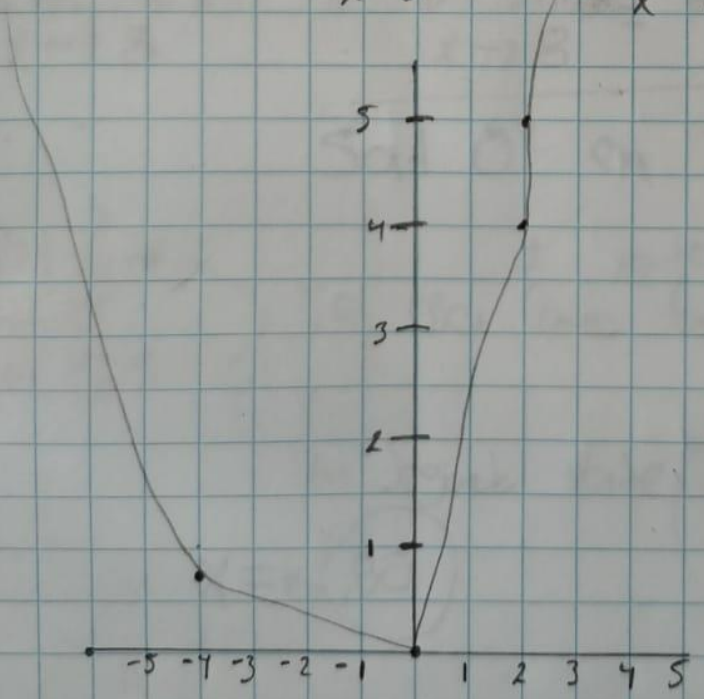
$\frac{(x-2)(x+3)}{x-2} = \lim_{x \to 2} x + 3$ $(2) + 3 = 5$

2 $\lim_{x \to -4} \frac{x^2 + 5x + 4}{x^2 + 3x - 4}$ $\frac{16 + 5(-4) + 4}{16 + 3 - 4 - 4}$ $\frac{16 - 20 + 4}{16 - 12 - 4} = \frac{0}{0}$

$\frac{(x+4)(x+1)}{(x+4)(x-1)}$ $\lim_{x-1} \frac{x+1}{} = \frac{-4+1}{-4-1} = \frac{-3}{-5} = \frac{3}{5} = 0.6$

3 $\lim_{x \to 2} \frac{x^2 - 4}{x - 2}$ $\frac{4-4}{2-2} = \frac{0}{0}$

$\frac{(x-2)(x+2)}{x-2}$ $\lim_{x \to 2} x + 2$ $2 + 2 = 4$



Propiedades de los límites.

4 Propiedades básicas de los límites.

$\lim_{x \to a} c = c$ $\quad \lim_{x \to 2} 5 = 5$

$\lim_{x \to a} x = a$ $\quad \lim_{x \to 2} x = 2$

$\lim_{x \to a} x^n = a^n$ $\quad \lim_{x \to 2} x^2 = 4$
$x \to 2 = (2)^2 = 4$

$\lim_{x \to a} \sqrt[n]{x} = \sqrt[n]{a}$ $\quad \lim_{x \to 4} \sqrt{x} = 2$

$\lim_{x \to 8} 6x^2$ $\quad 6 \lim_{x \to 8} = 6(8)^2 = 6 \cdot 64 = 384$

Sea O^2 en Hb. Tarea

PH 6
PH 9
PH 5.5
> Se usa como constante y como x.

1 parte

En segunda parte PO^2 mm/hg
$K = 80$

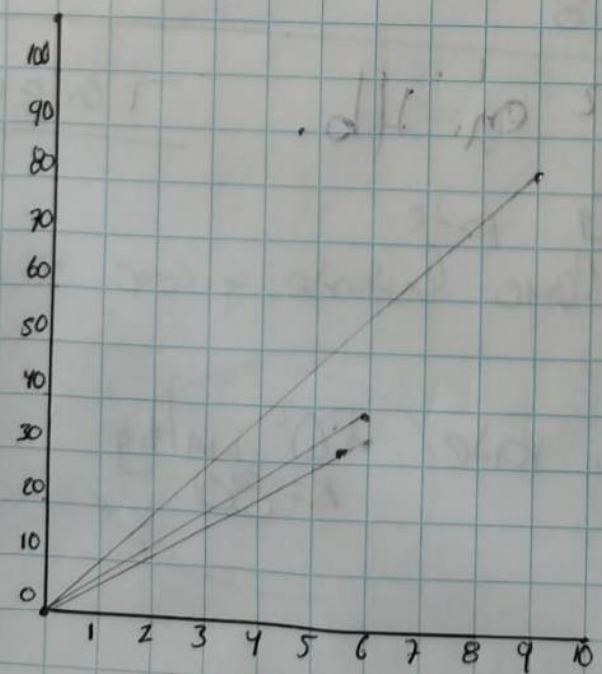
$X = K(80)$

Sat O_2 en Hb.

1 $\lim_{x \to 6} 6 = 6 \lim_{x \to 6} x = \lim_{x \to 6} 6(6) = 36$

2 $\lim_{x \to 9} 9 = 9 \lim_{x \to 7} x = \lim_{x \to 9} 9(9) = 81$

3 $\lim_{x \to 0.5} 0.5 = 0.5 \lim_{x \to 0.5} x = \lim_{x \to 0.5} 0.5(0.5) = 30.25$



1 $\lim_{x \to 6} 80(x)$ $\quad 80 \lim_{x \to 6} (x) = 80(6) = 480$ 33%.

2 $\lim_{x \to 9} 80x$ $\quad 80 \lim_{x \to 9} x = 80(9) = 720$ 22%.

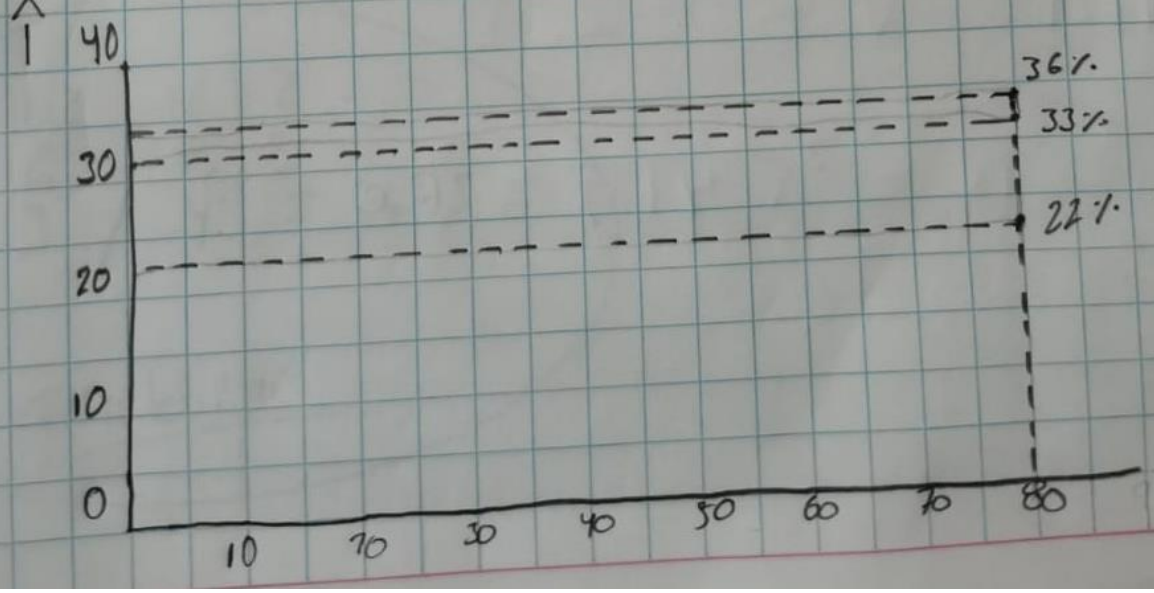
3 $\lim_{x \to \frac{11}{2}} 80x$ $\quad 80 \lim_{x \to \frac{11}{2}} x = 80\left(\frac{11}{2}\right) = 440$ 36%.

(x) 5.5
(9) 30.25

(x) 9
(4) 81

480	720	440	
240	360	220	2
120	180	110	2
60	90	55	2
12	18	11	5
6	9	11	2
2	3	11	3
1	1	1	3
			2
			1

100%



1 $\lim_{x \to 4} 3x \cdot 6x$

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

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

$12 \quad 24$

$12 \cdot 24 = 288$

2 $\lim_{x \to 4} \frac{3x}{4x} = \lim_{x \to 4} 3x \div 4x$

Directo

$\frac{3(4)}{4(4)} = \frac{12}{16} = 0.75$

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

$\frac{3(4)}{4(4)} = \frac{12}{16} = 0.75$

12	16	2
6	8	2
3	4	$= 0.75$

Factorizar

$$\lim_{x \to 5} \frac{3x - 12}{4x - 19} \qquad \frac{3(5) - 12}{4(5) - 19} = \frac{15 - 12}{20 - 19} = \frac{3}{1} = 3$$

$$\lim_{x \to a} [F(x)]^n = \left[\lim_{x \to a} F(x)\right]^n$$

$$\lim_{x \to 3} 2x^3 \qquad 1(2)\ (3)^3 = 6^3 = 216$$

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

$$\sqrt[3]{4(2)} \qquad \sqrt[3]{8} = 2.$$

$$\lim_{x \to 2} \sqrt[3]{4x} = \sqrt[3]{4(2)} = \sqrt[3]{8} = 2$$

Limites laterales.

Calcular $\lim_{x \to 2} F(x)$.

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

Calcular $\lim_{x \to 1} F(x)$

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

> Mayor lado derecho
< Menor lado izquierdo

$\lim_{x \to 1} 1^2 + 1 = 1 + 1 = 2$

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