Nombre del trabajo:
Poniendo limites

Materia: Biomatematicas

Nombre del alumno:
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Grado: 2
Grupo: A

Docente:

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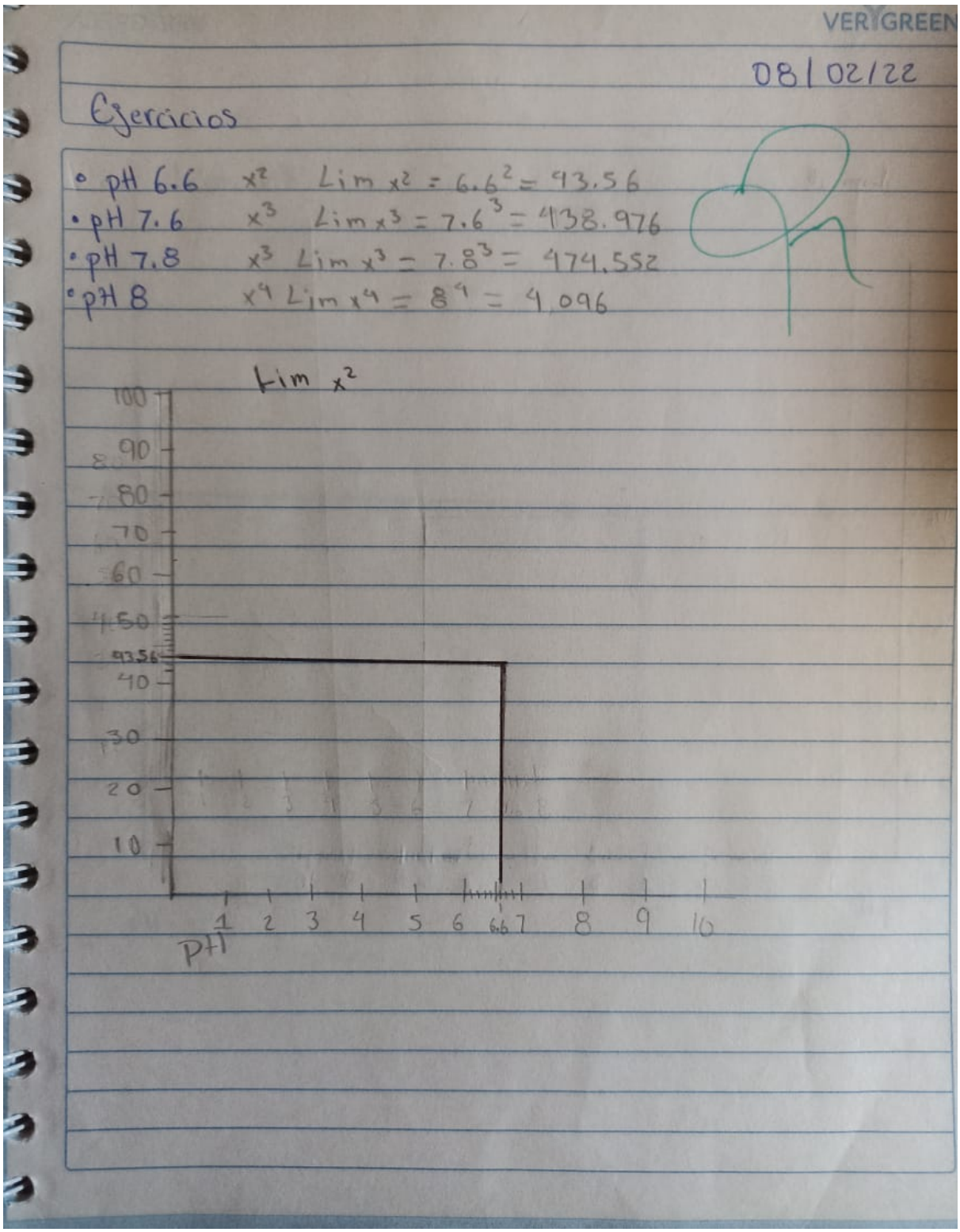
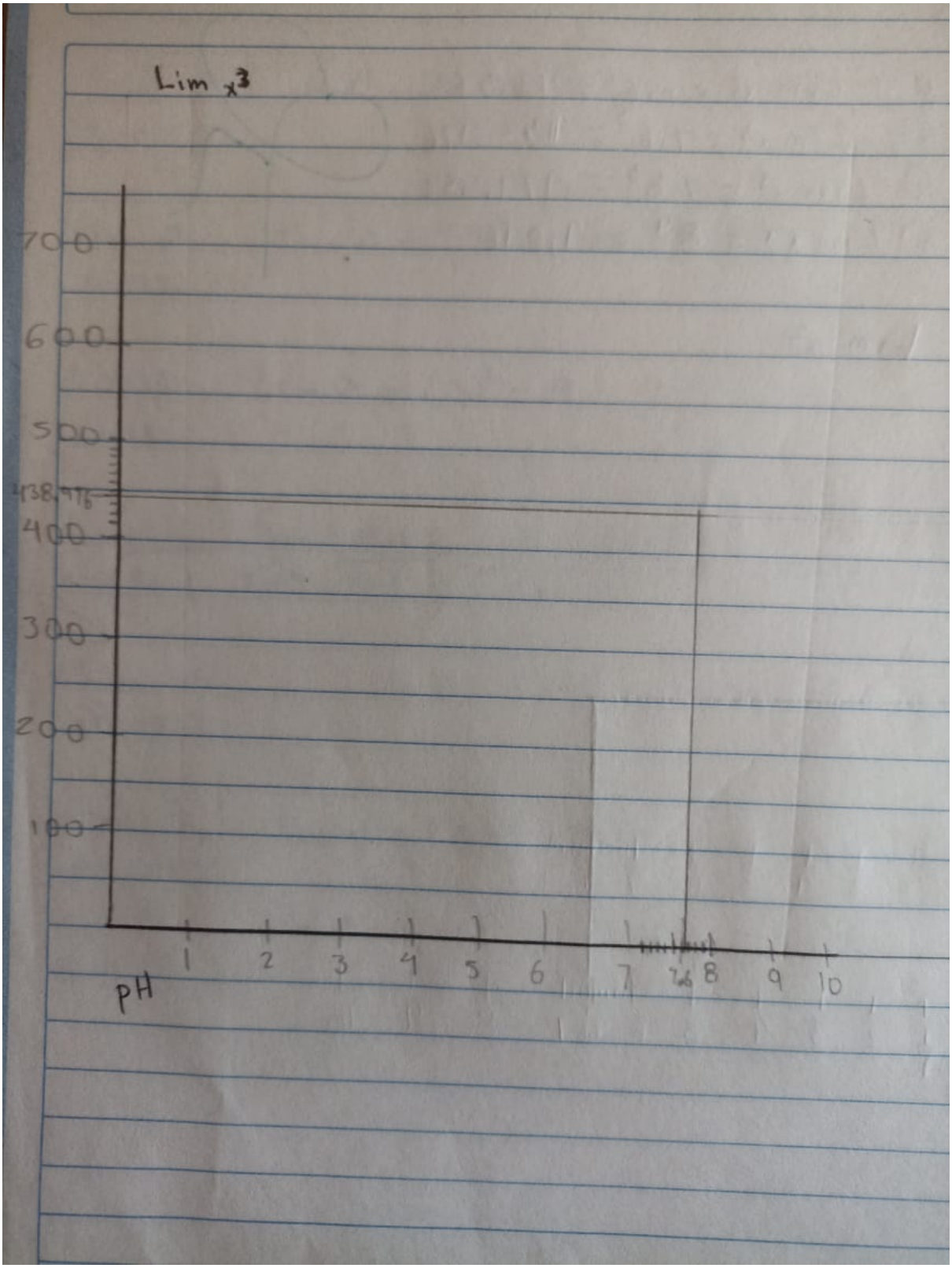
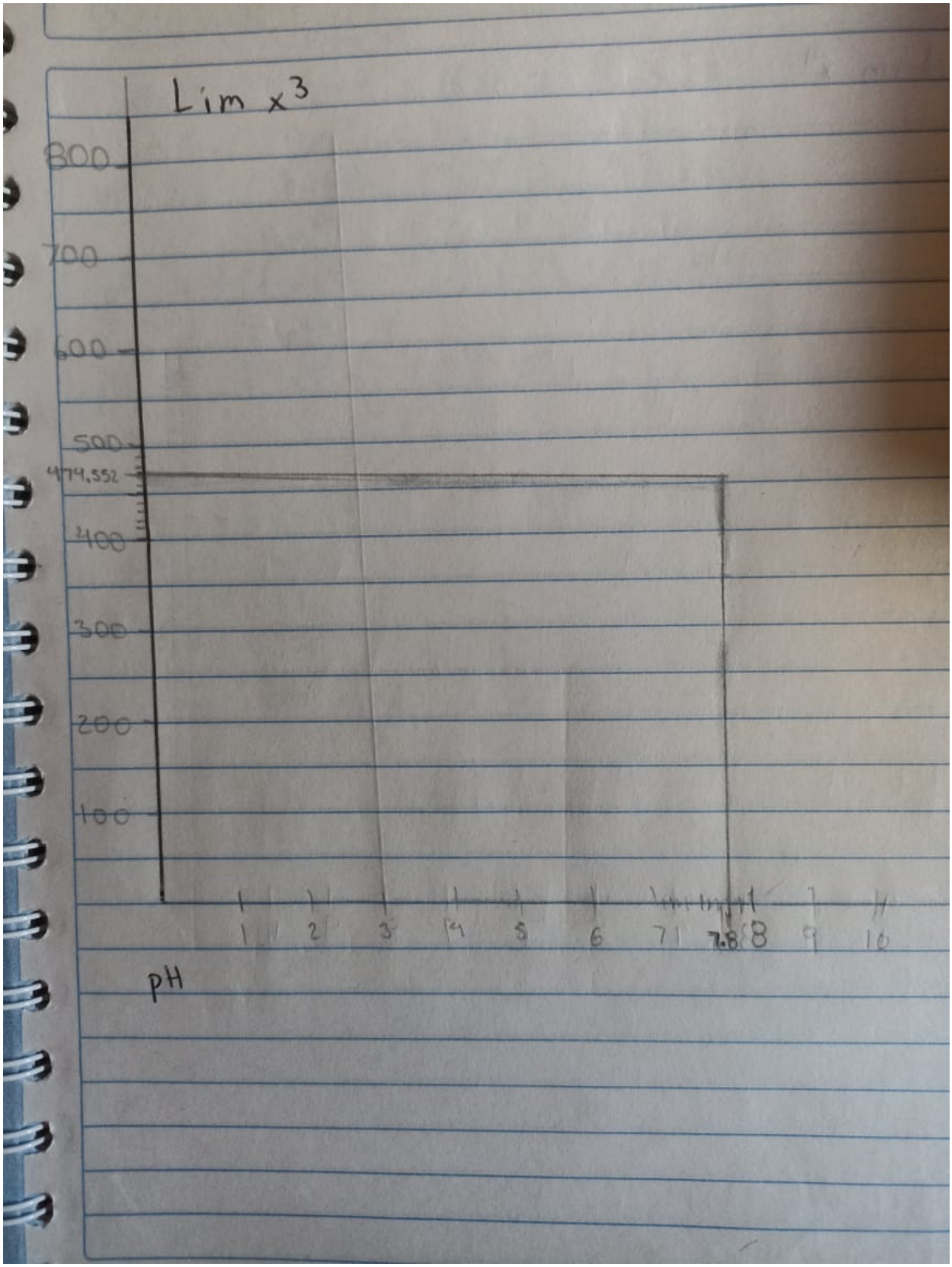
Comitán de Domínguez Chiapas a 20 de enero 2022

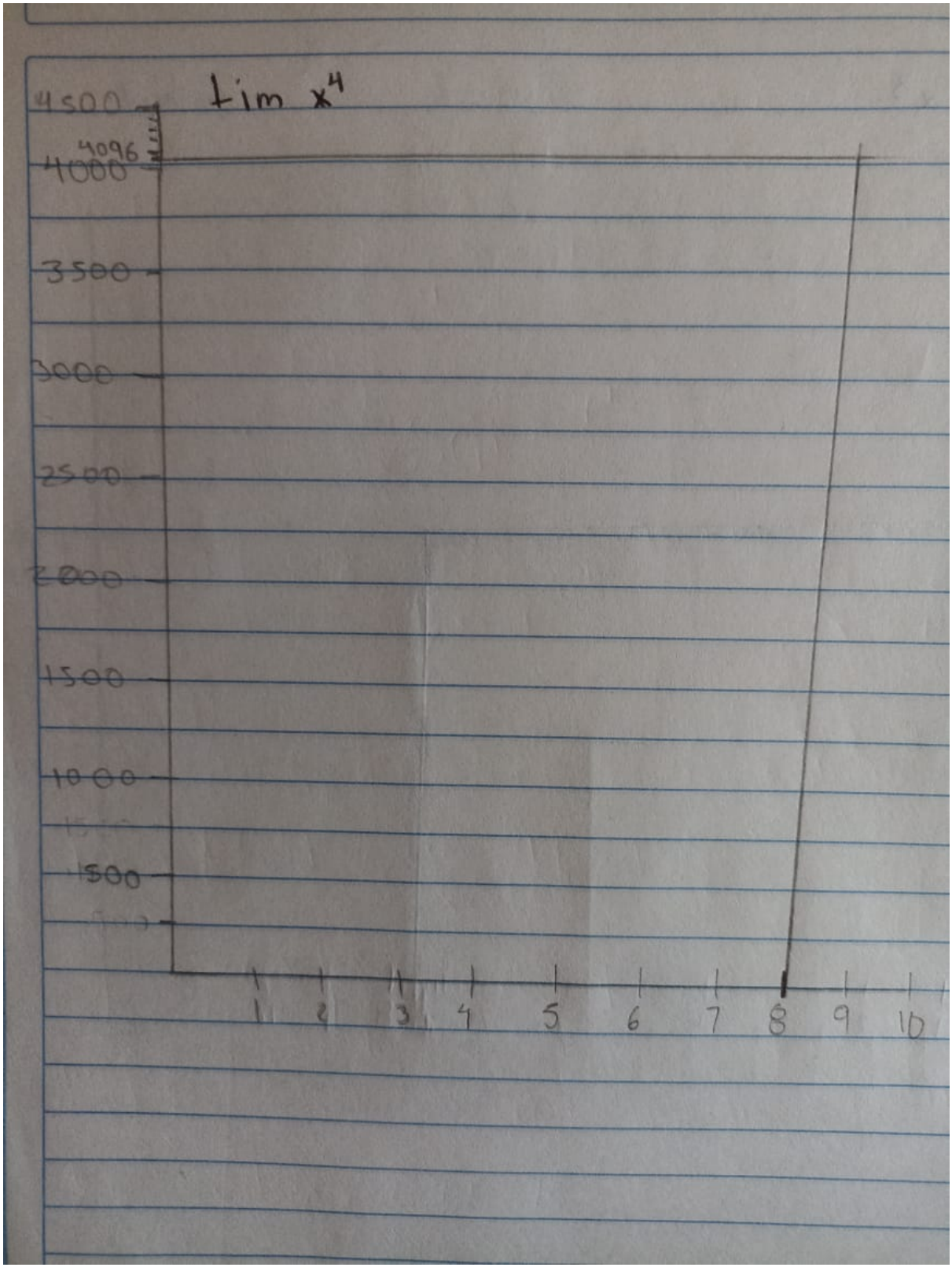
Realizar ejercicios puestos por el catedrático durante la clase, los cuales deben de estar calculados y graficados, tanto en el eje de "x" y eje de "y", tomando en cuenta los datos correspondientes a cada situación propuesta.



Lim x^3




Lim x3
800
700
600
500
474.552
400
300
200
100
1
2
3
4
5
6
7
7.8
8
9
10
pH


lim x^4
4500
4096
4000
3500
3000
2500
2000
1500
1000
500
1
2
3
4
5
6
7
8
9
10

VERYGREEN

09/02/22

Ejercicios.

$\lim x^2$

pH 6.6 $f(x)^2 = (6.6)^2 = 43.56$

$\lim x^2$

pH 7.6 $f(x)^2 = (7.6)^2 = 57.76$

$\lim x^2$

pH 7.8 $f(x)^2 = (7.8)^2 = 60.84$

$\lim x^2$

pH 8 $f(x)^2 = (8)^2 = 64$

4096	2
2048	2
1024	2
512	2
256	2
128	2
64	2
32	2
16	2
8	2
4	2
2	2
1	

$2^{12} > 6$

15/02/22

Limites. La constante no cambia.

1) $\lim_{x \to a} c = c$ $\quad \lim_{x \to 3} 5 = 5$

2) $\lim_{x \to a} x = a$ $\quad \lim_{x \to 41} x = 41$

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

4) $\lim_{x \to a} \sqrt[n]{x} = \sqrt[n]{a}$ $\quad \lim_{x \to 4} \sqrt[3]{4} = 2$ $\quad \lim_{x \to 4} = 2$

Propiedades de los limites

1) $\lim_{x \to 2} k[f(x)] = k \lim_{x \to a} f(x) = kL$ $\quad L = \text{limite}$

$\lim_{x \to 2} k[f(x)]$ $\quad \lim_{x \to 2} 4[2] = 8$

o $k\left[\lim_{x \to 2} (fx)\right] = 2(2) = 4$

2) $\lim_{x \to a} f(x) \pm g(x) = \lim_{x \to a} f(x) \pm \lim_{x \to a} g(x) = L \pm M$

$\lim_{x \to 3} 2x + 3x = 6 + 9 = 15$

o $\lim_{x \to 3} (2(3)) + (3(3)) = 6 + 9$

$x \to 3$ $\quad \lim = 15$

leer pag. 59.

3) $\lim_{x \to a} f(x) * g(x) = \lim_{x \to a} f(x) * \lim_{x \to a} g(x) = L * M.$

$\lim_{x \to 3} [2x * 4x] = 6 \cdot 12 = 72$, $\lim = 72$

4) $\lim_{x \to a} f(x) \div g(x) = \lim_{x \to a} f(x) \div \lim_{x \to a} g(x) = L \div M, \quad M \neq 0$

$\lim_{x \to a} \frac{f(x)}{g(x)} \Big| \lim_{x \to 2} \frac{4x}{8x} = \frac{4(2)}{8(2)} = \frac{8}{16} = 0.5$

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

5) $\lim_{x \to a} x^n = a^n \quad \lim_{x \to a} f(x) = \lim_{x \to a} x^n$

$\lim \sqrt[n]{f(x)} = \lim_{x \to a} \sqrt{x}$

$= \sqrt[n]{a}$

6) Si k es una constante $\lim_{x \to a} k = k$

VERYGREEN

pH 6
pH 9
pH 5.5

1) pH 6
f(x) k[f(x)] = 6 (6) = 36 ✓
x → 6

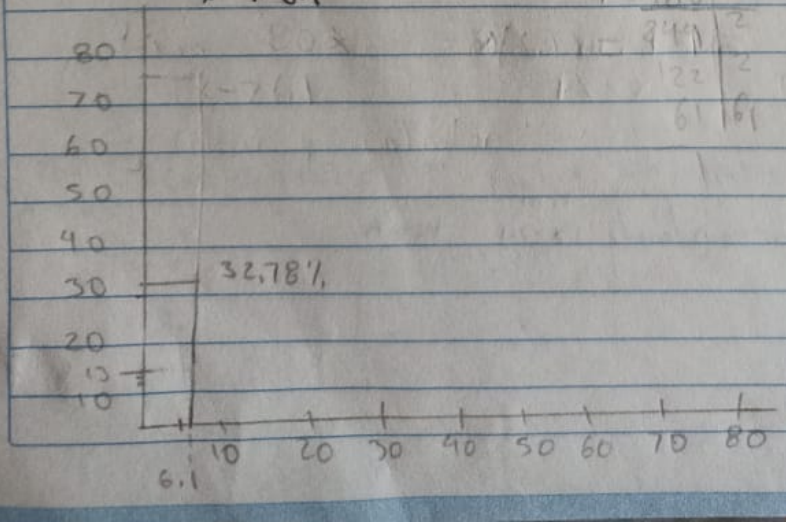
2) pH 9
f(x) k[f(x)] = 9
x → 9 9[9] = 81 ✓

3) pH 5.5
f(x) k[f(x)] = 5.5 (5.5) = 30.25 ✓
x → 5

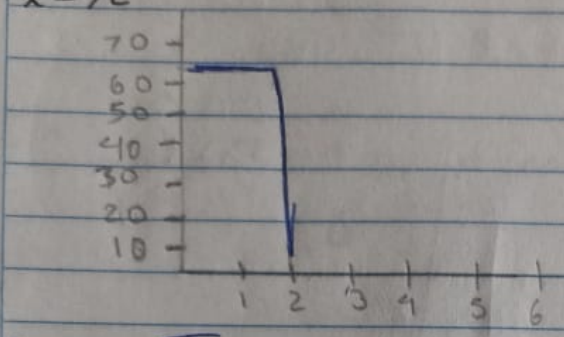
Lim 80x 80 (6.1) = 488
x → 6.1

488 | 2
2 | 244
2 | 122
61 | 61

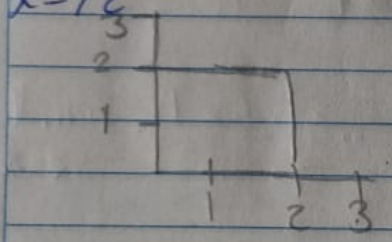
6.1 → 100 %
= 32.78 % ✓



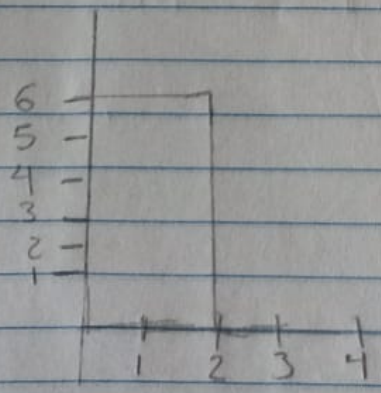
$\lim_{x \to 2} [2x]^3 = [2(2)]^3 = 4^3 = 64$



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



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



VERYGREEN

16/02/22

Limites laterales

- Cuando x se acerca a c por la derecha

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

Cuando x se acerca a c por la izquierda

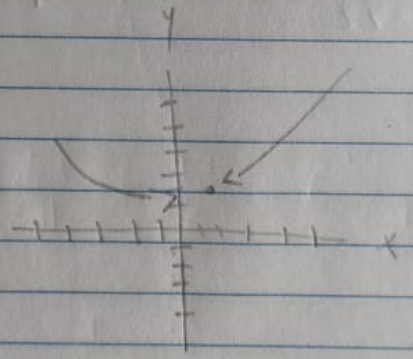
$\lim_{x \to a^-} f(x)$ ó $\lim_{x \to 0^-} \frac{|x|}{x}$

$$f(x) \frac{|x|}{x} = \begin{cases} x^2+1 & \text{si } x < 1 \\ 2 & \text{si } x > 1 \end{cases}$$

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

$1+1=2$

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



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

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

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

$\lim_{x\to 2^+} \frac{6-2|2|}{x-2} = 12$

$\lim_{x\to 2} \frac{6-2x}{}$