

COLEGIO

2^o São José
2^o ano complementar

CADERNO DE

Algebra

ALUNO

Vera G. Martinez



Tema para
Determinar o ponto M.

o dia 25/10/37.
abscissa - 3.
ordenada 4.



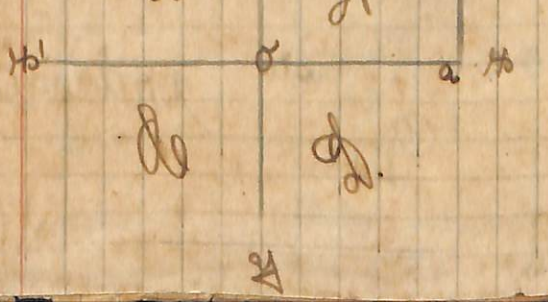
ceihe
Centro de Estudos e Investigações
em História da Educação

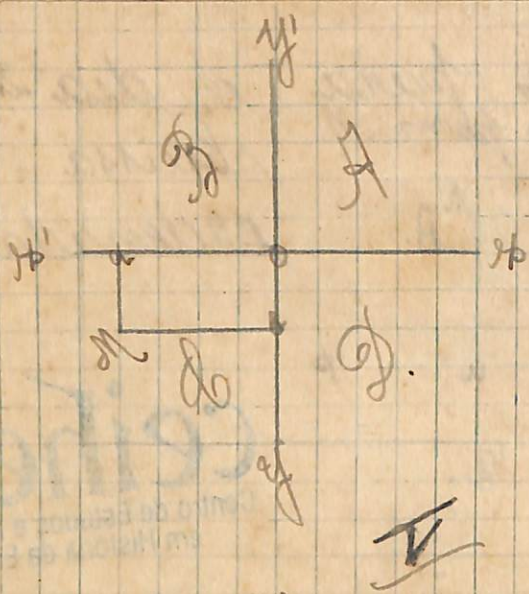


abscissa 4
ordenada 3.

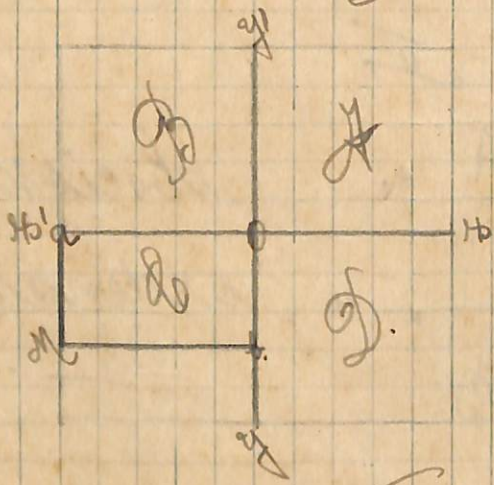


abscissa 5
ordenada 4.

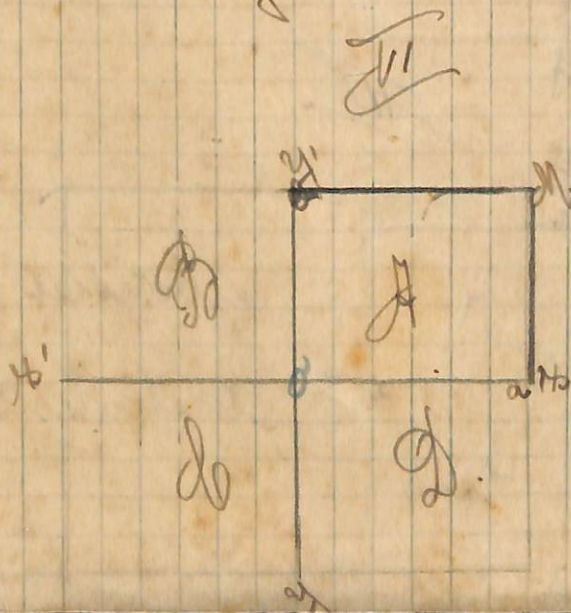




abscissa -4
ordenada -2



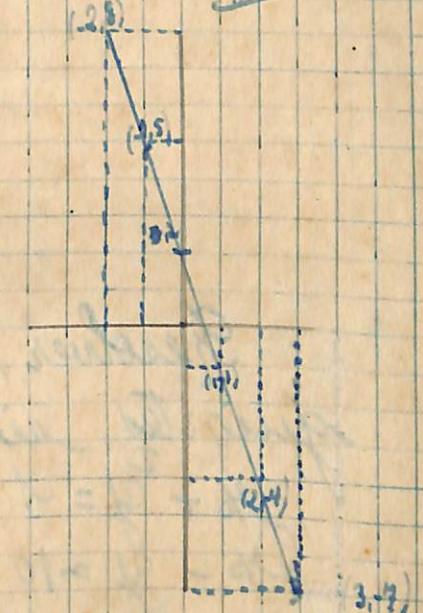
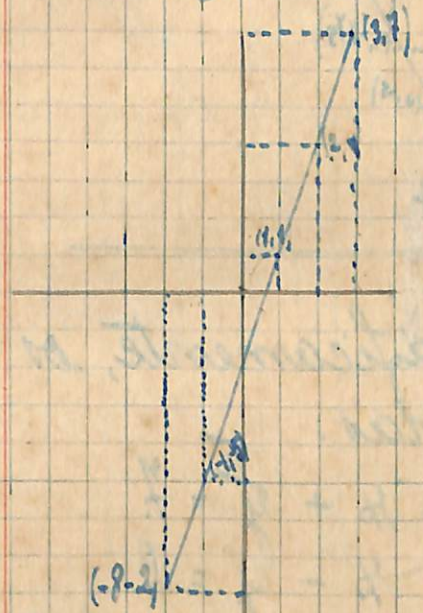
abscissa -5
ordenada -3



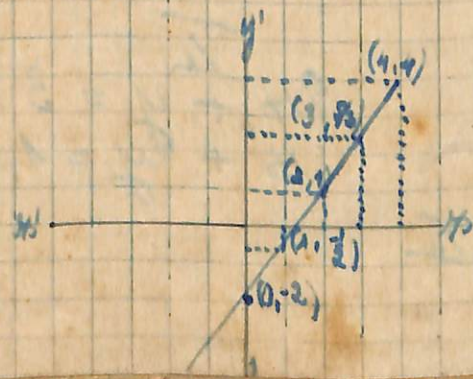
abscissa 6
ordenada 5

Vera

Tema para o dia 10/07
Representar graficamente:
 $y = 3x - 2$
 $y = -3x + 2$
 $3x - 2y = 1$
 $5x - 3y = 15$

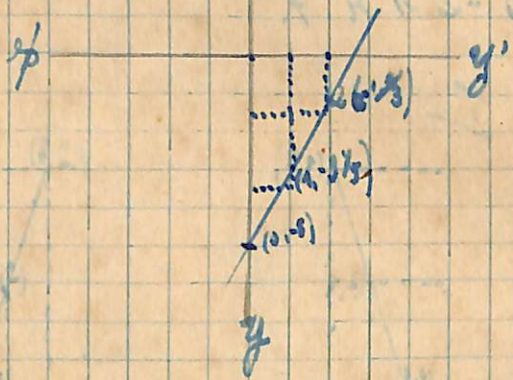


x	0	1	2	3	4
y	-2	-1/2	1	5/2	4



$$5x - 3y = 15 \quad \text{IV}$$

x	0	3
y	-5	0



Resolver graficamente, os seguintes sistemas:

$$\begin{cases} x + y = 1 \\ 2x - y = 10 \end{cases}$$

$$\begin{cases} x + y = 7 \\ x - y = 3 \end{cases}$$

$$\begin{cases} x - y = 6 \\ 2x + y = 9 \end{cases}$$

$$\begin{cases} 5x + 4y = 12 \\ x - 2y = 8 \end{cases}$$

$$\begin{cases} 2x - y = 3 \\ 3x + y = 7 \end{cases}$$

$$\begin{cases} 2x + y = 3 \\ x + 2y = 1 \end{cases}$$

$$\begin{cases} x - y = 1 \\ 2x - 3y = 5 \end{cases} \quad \text{IV}$$

x	0
y	1

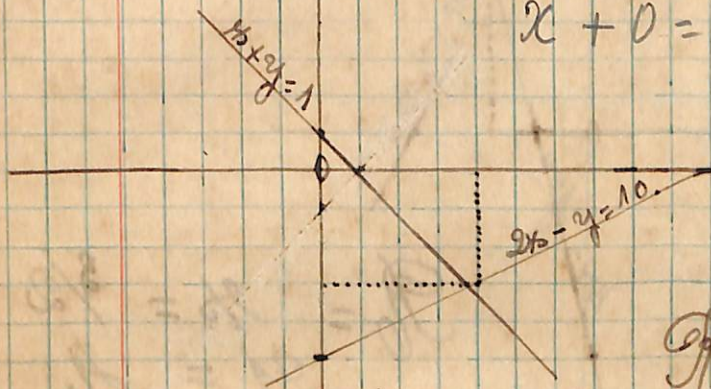
x	0
y	-5

x	0
y	0

x	10
---	----

Dando a x o valor de 0, temos: (na equação)
 $0 + y = 1$ ou $y = 1$

Dando a y o valor de 0, temos:
 $x + 0 = 1$ ou $x = 1$



R.: $\begin{cases} x = 1 \\ y = -1 \end{cases}$

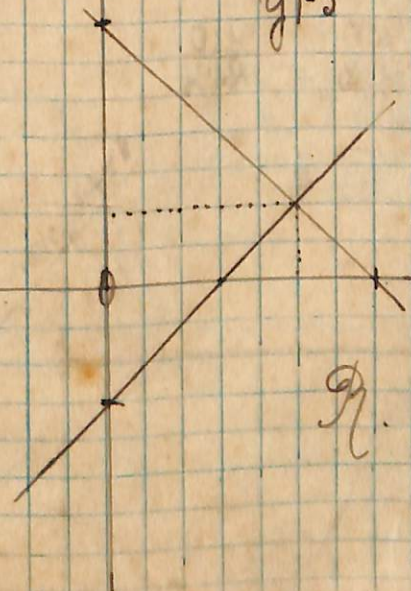
x	0
y	7

x	0
y	7

$$\begin{cases} x + y = 7 \\ x - y = 3 \end{cases}$$

x	0
y	-3

x	0
y	3



R.: $\begin{cases} x = 2 \\ y = 5 \end{cases}$

$$\begin{cases} x - y = 6 \\ 2x + 6y = 9 \end{cases}$$

$$\begin{array}{l|l} x & 0 \\ \hline y & -6 \end{array} \quad \begin{array}{l|l} y & 0 \\ \hline x & 3/2 \end{array}$$

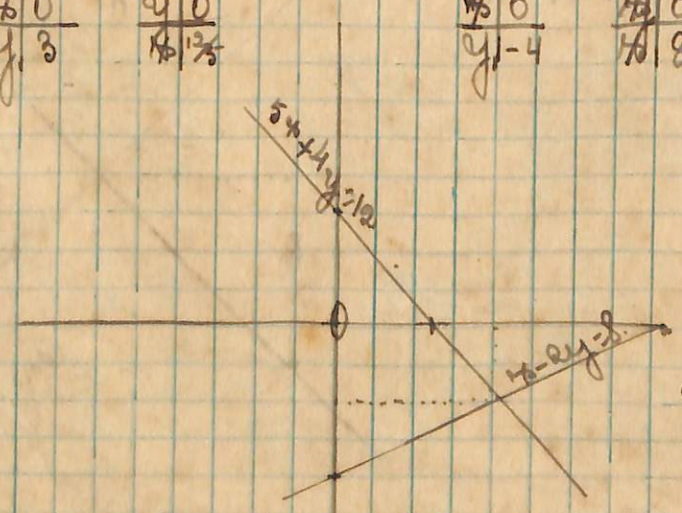


$$P_0 = \begin{cases} x = 3/2 \\ y = 1 \end{cases}$$

$$\begin{cases} 5x + 4y = 12 \\ x - 2y = 8 \end{cases}$$

$$\begin{array}{l|l} x & 0 \\ \hline y & 3 \end{array} \quad \begin{array}{l|l} y & 0 \\ \hline x & 1/2 \end{array}$$

$$\begin{array}{l|l} x & 0 \\ \hline y & -4 \end{array} \quad \begin{array}{l|l} x & 8 \\ \hline y & 0 \end{array}$$

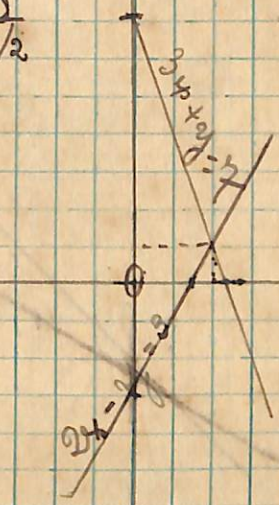


$$P_0 = \begin{cases} x = 4 \\ y = -2 \end{cases}$$

$$\begin{cases} 2x - y = 3 \\ 3x + 6y = 7 \end{cases}$$

$$\begin{array}{l|l} x & 0 \\ \hline y & -3 \end{array} \quad \begin{array}{l|l} x & 0 \\ \hline y & 3/2 \end{array}$$

$$\begin{array}{l|l} x & 0 \\ \hline y & 1 \end{array} \quad \begin{array}{l|l} x & 0 \\ \hline y & 7/3 \end{array}$$



$$P_0 = \begin{cases} x = 2 \\ y = 1 \end{cases}$$

$$\begin{cases} 2x + y = 3 \\ x + 2y = 1 \end{cases}$$

$$\begin{array}{l|l} x & 0 \\ \hline y & 3 \end{array} \quad \begin{array}{l|l} x & 0 \\ \hline y & 3/2 \end{array}$$

$$\begin{array}{l|l} x & 0 \\ \hline y & 1 \end{array} \quad \begin{array}{l|l} x & 0 \\ \hline y & 1 \end{array}$$



$$P_0 = \begin{cases} x = 2 \\ y = -1 \end{cases}$$

III

$$x - y = 1$$

$$2x - 3y = 5$$

$$\frac{x}{y} = \frac{1}{-1}$$

$$\frac{y}{1} = \frac{1}{-1}$$

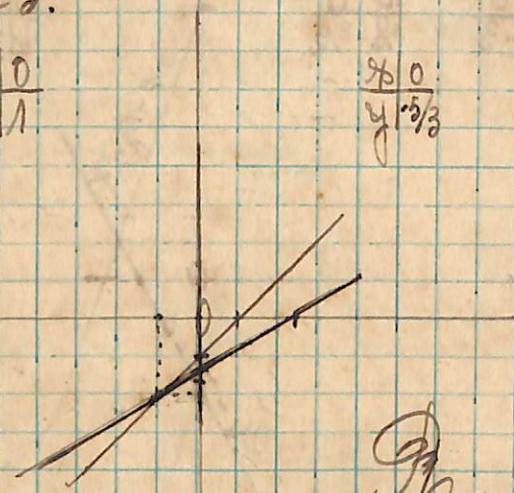
$$\frac{x}{y} = \frac{5}{-3}$$

$$\frac{y}{x} = \frac{2}{5}$$

$$x - 2y = 2$$

$$4x - 2y = 1$$

$$\frac{16}{y} = 0$$



$$P_0 = x = 4$$

$$y = -1$$

31. am
1928

Algebra.

$$\frac{16}{y} = 6$$

$$\frac{x}{5} - \frac{x}{7} + \frac{x}{3} < x - 4$$

$$x > \frac{x}{2} + \frac{x}{5} - 1$$

$$21x - 15x + 35x < 5x - 420$$

$$21x - 15x + 35x - 105x < -420$$

$$-64x < -420$$

$$64x > 420$$

$$x = \frac{420}{64} = 6 \frac{9}{16}$$

$$10x > 5x + 2x - 1$$

$$10x - 5x - 2x > -1$$

$$3x > -1$$

$$3x < 1$$

$$x = \frac{1}{3}$$

$$P = \frac{1}{3} > 6 \frac{9}{16} < \frac{1}{3}$$

$$\frac{2}{3} - \frac{1x-1}{2} < 2 - 3x$$

$$\frac{x-2}{3} > \frac{2-x}{5}$$

main

$$4 + 3x - 1 < 12 - 18x$$

$$4 + 3x + 18x < 12 - 4 + 1$$

$$21x < 9$$

$$x < \frac{9}{21} = \frac{3}{7}$$

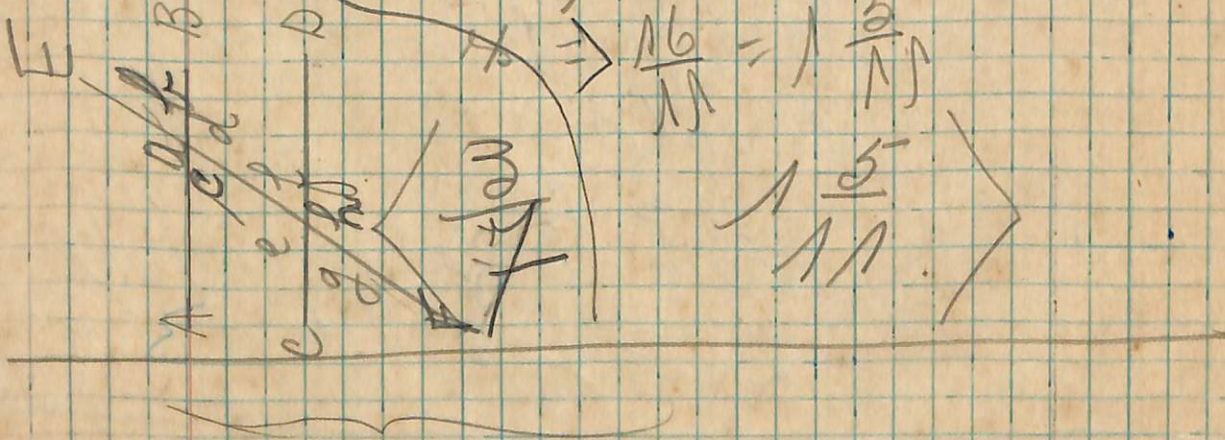
$$5x - 10 > 6 - 6x$$

$$5x + 6x > 6 + 10$$

$$11x > 16$$

$$x > \frac{16}{11} = 1 \frac{5}{11}$$

$$1 \frac{5}{11}$$



$$\frac{4-x}{3} - \frac{2-x}{2} + \frac{1+x}{5} > 0$$

$$\frac{4-x}{3} - \frac{5x-2}{2} + \frac{1+x}{5} < 0$$

$$40 - 10x - 30 + 15x + 6 + 6x > 0$$

$$-10x + 15x + 6x > -40 + 30 - 6$$

$$-11x > -16$$

$$11x < 16$$

$$x < \frac{16}{11} = 1 \frac{5}{11}$$

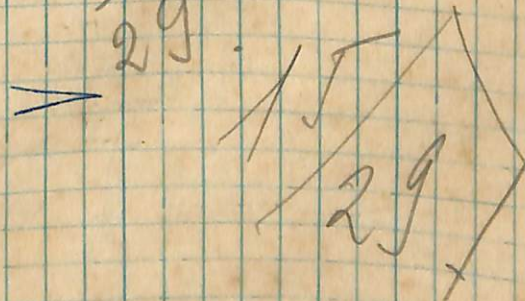
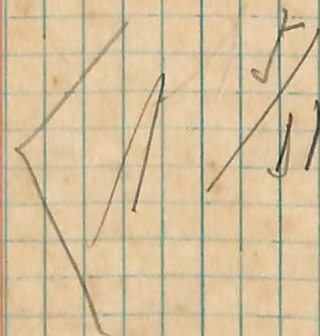
$$11x - 30x + 12 + 3 - 3x < 0$$

$$1x - 30x - 3x < -12 - 3$$

$$-29x < -15$$

$$29x > 15$$

$$x > \frac{15}{29}$$



$$x - 5 > 3(2 - 3x)$$

$$5(2x - 1) < 2(x - 7)$$

$$x - 5 > 6 - 9x$$

$$x + 9x > 6 + 5$$

$$10x > -11$$

$$x > \frac{-11}{10} = 1 \frac{1}{10}$$

$$10x - 5 < 2x - 14$$

$$10x - 2x < -5 - 14$$

$$8x < -9$$

$$\frac{1}{10}$$

$$\frac{9}{8}$$

$$5(3x + 1) < 4x + 6$$

$$4(4 + 3) > 2x - 9$$

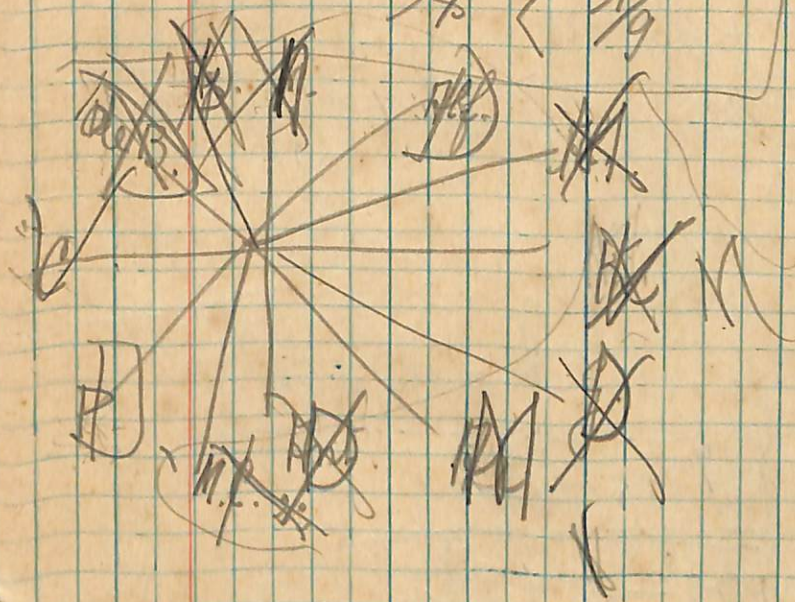
$$10x + 5 < 4x + 6$$

$$4x + 12 > 2x - 9$$

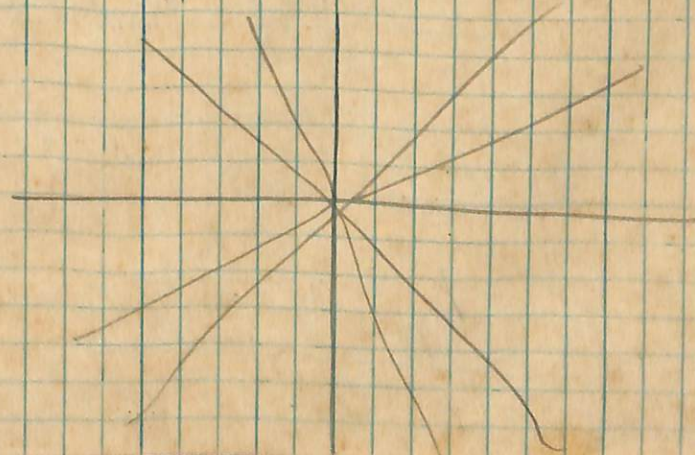
$$10x - 4x < 6 - 5$$

$$6x < 1$$

$$x < \frac{1}{6}$$



M. 15. I D E V



$$\frac{9x^2}{5} - \frac{7x}{3} + 2 = \frac{2x^2}{1} = \frac{x}{2} + \frac{1}{3}$$

$$27x^2 - 35x + 30 =$$

$$12x^2 - 3x + 2$$

$$\begin{array}{r} 28 \\ 60 \\ \hline 1680 \\ 1124 \\ \hline 2704 \\ 2100 \\ \hline 604 \end{array}$$

$$\begin{array}{r} 27x^2 - 35x + 30 - 12x^2 \\ - 12x^2 + 3x - 2 \\ \hline 15x^2 - 32x + 28 = 0 \end{array}$$

$$15x^2 - 32x + 28 = 0$$

$$\frac{32 \pm \sqrt{32^2 - 4 \cdot 15 \cdot 28}}{2 \cdot 15} = \frac{32 \pm \sqrt{1024 - 1680}}{30}$$

$$\frac{32 + 53}{30} \quad \frac{84}{30}$$

$$16a^2 + 8a$$

$$x^2 - ax + bx + ab = 0 \quad \sqrt{16a^2 + 8a}$$

$$x = \frac{(ax + bx) \pm \sqrt{(ax + bx)^2}}{2}$$

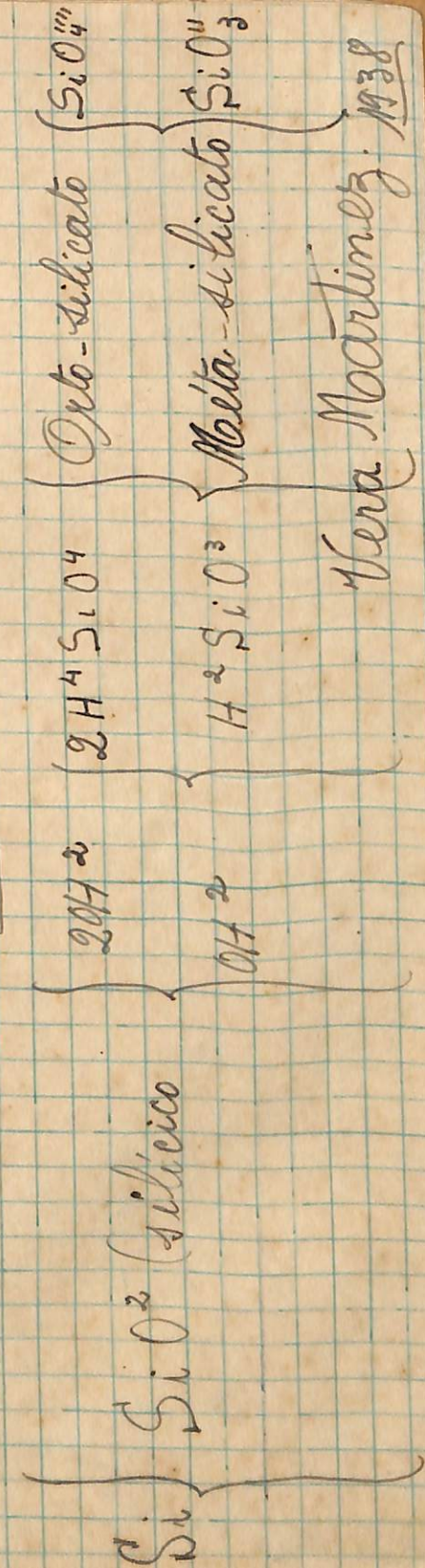
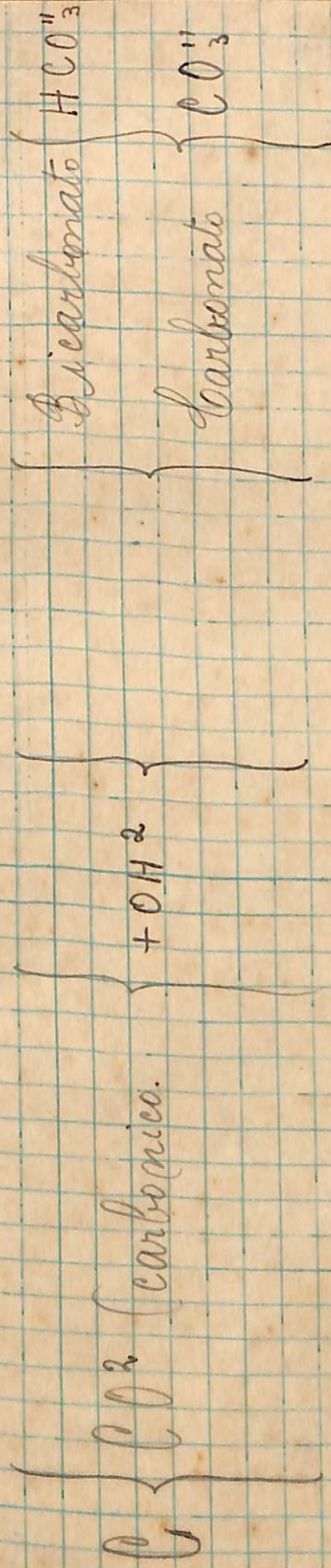
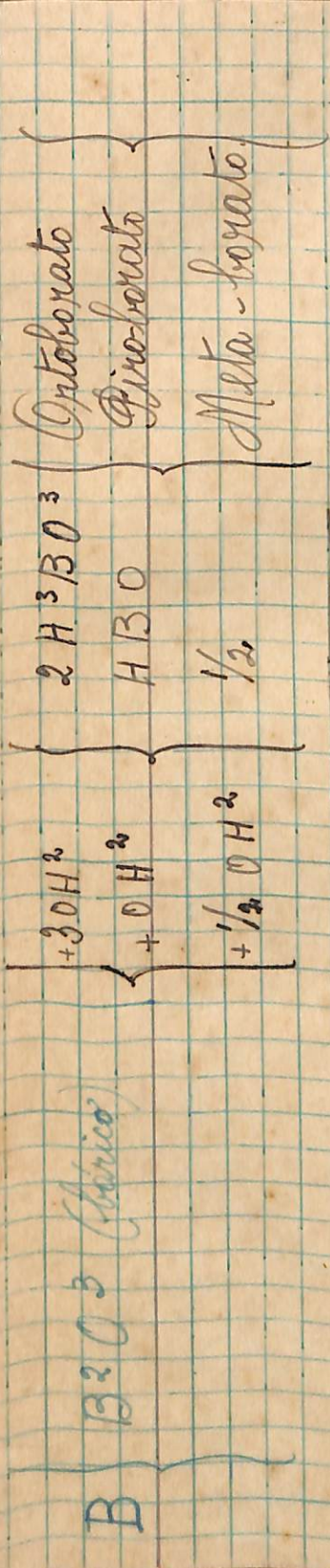
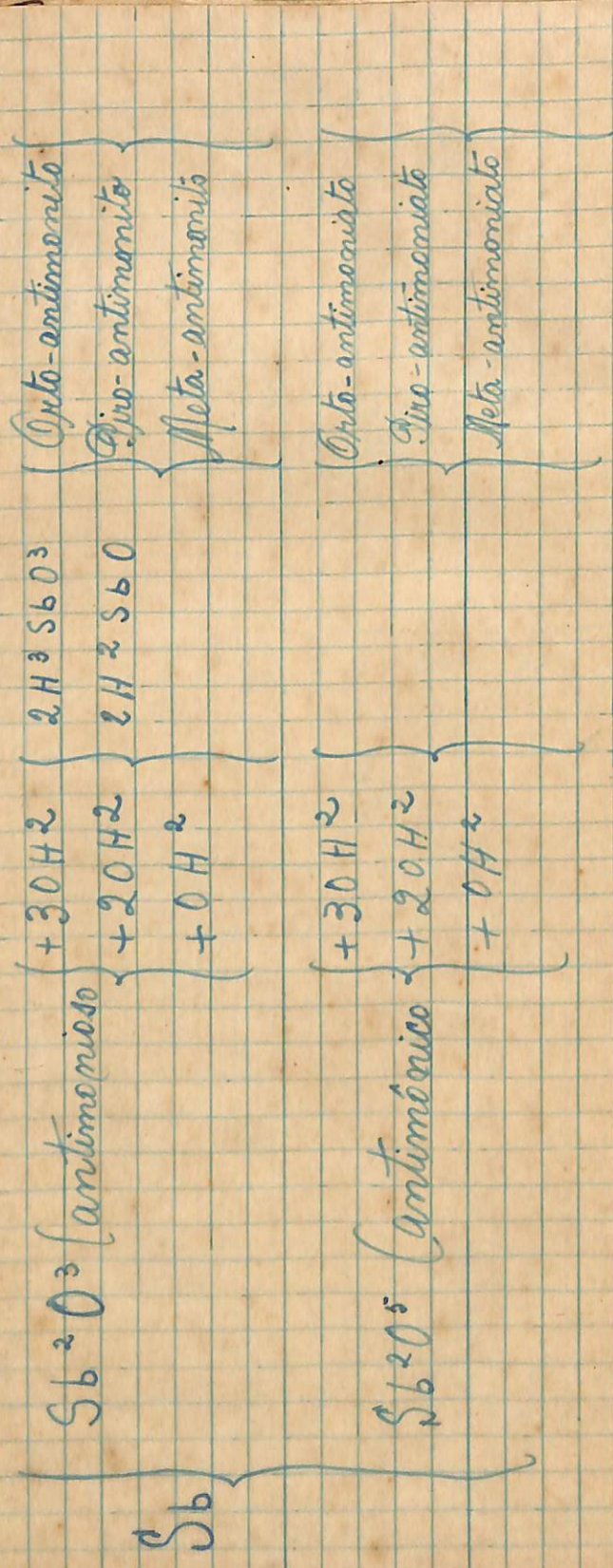
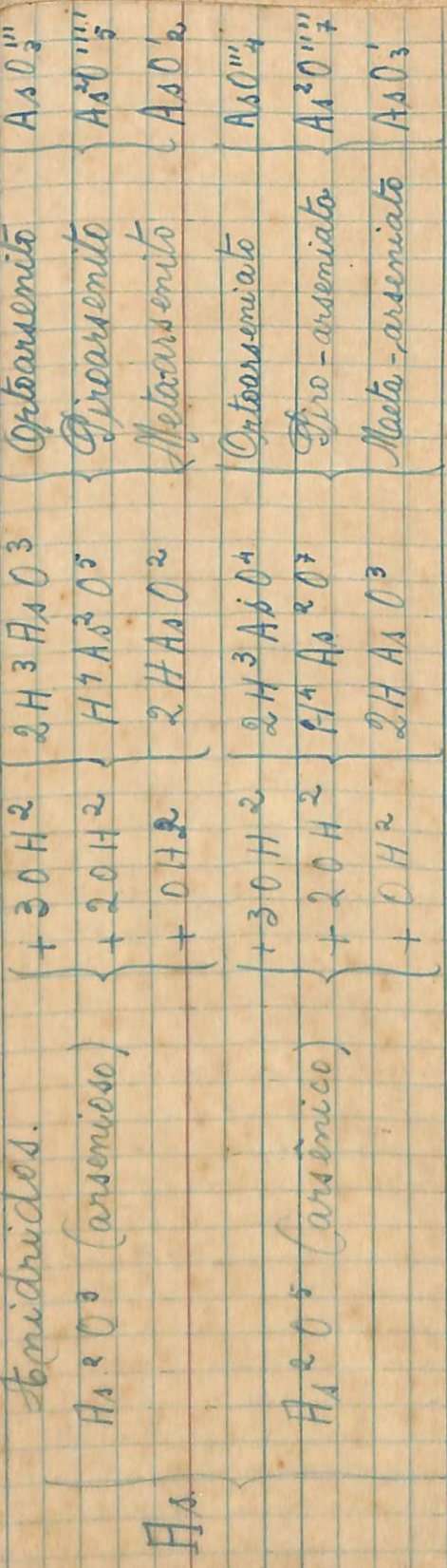
$$\frac{(a+b) \pm \sqrt{(a+b)^2 - 4 \cdot 1 \cdot ab}}{2 \cdot 1}$$

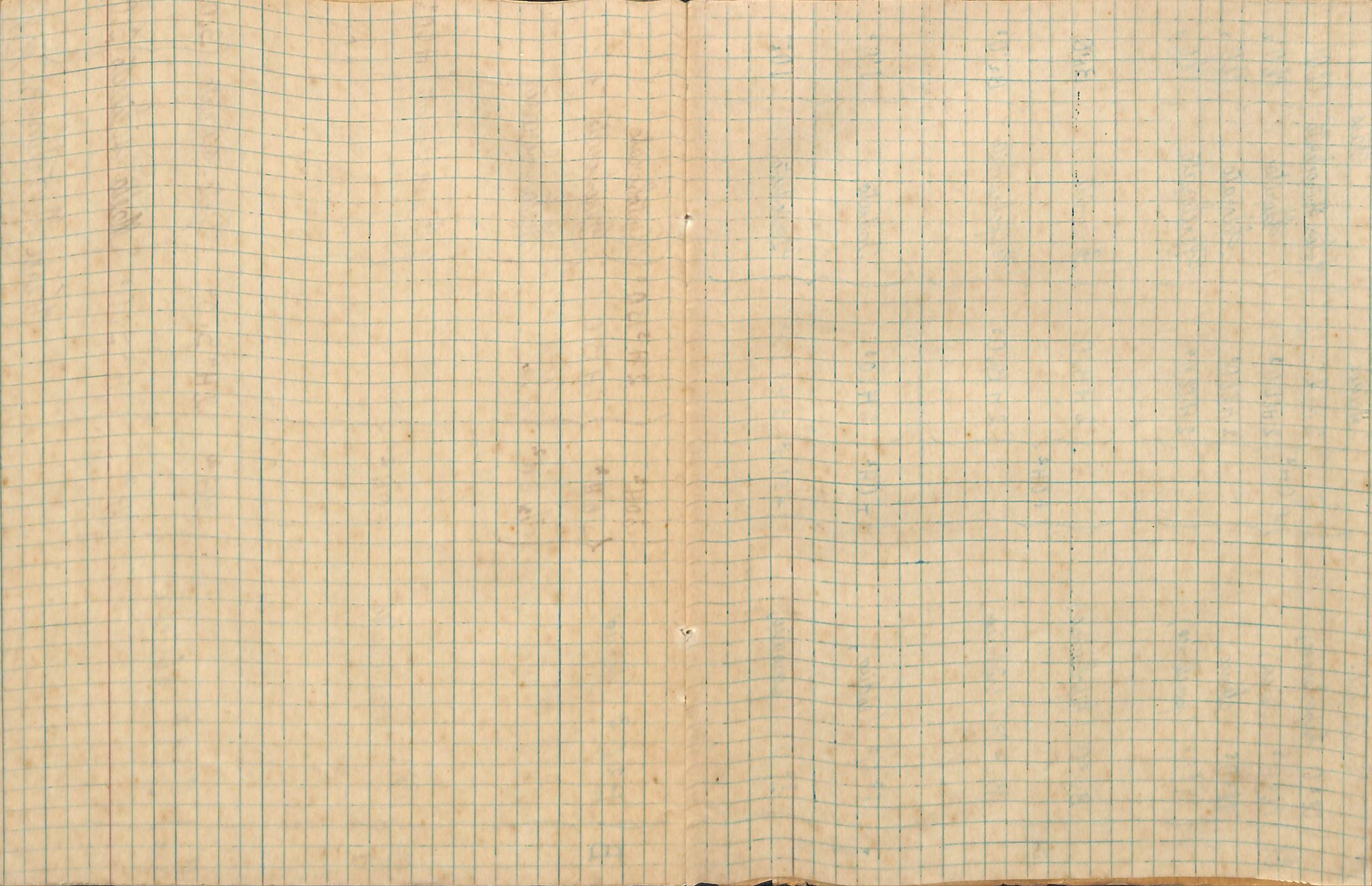
$$\frac{(a+b) \pm \sqrt{a^2 + b^2 - 4ab}}{2}$$

$$\frac{2a^2 + 2ab^2}{2 \cdot ab}$$

$$\frac{(a+b) \pm \sqrt{2ab}}{2} \quad \frac{(a+b) + 2ab}{2}$$

$$\frac{(a+b) - 2ab}{2} = \frac{3}{2} = 1.5$$





10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

10/1

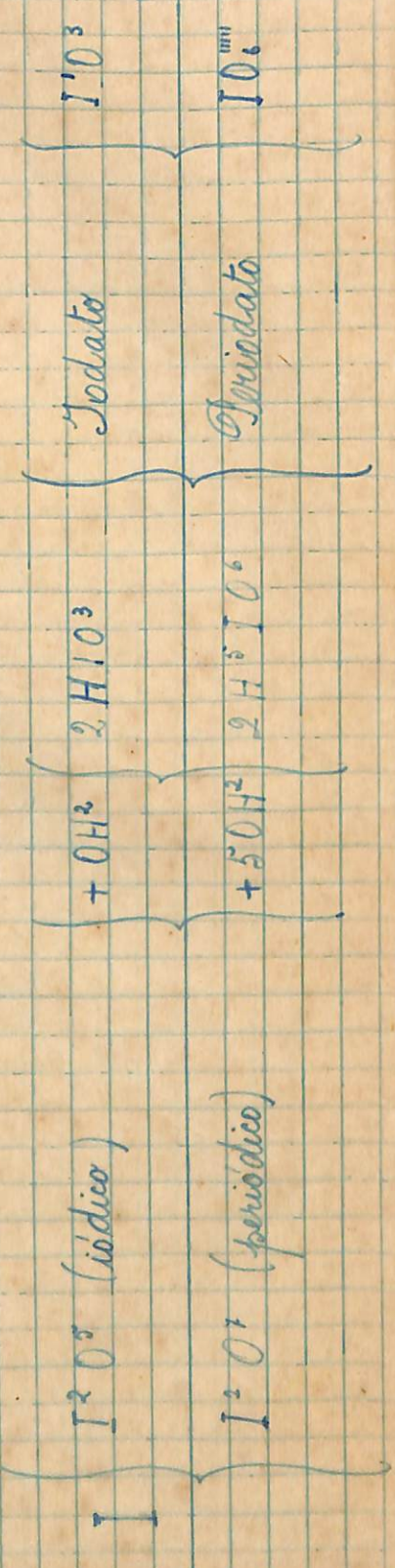
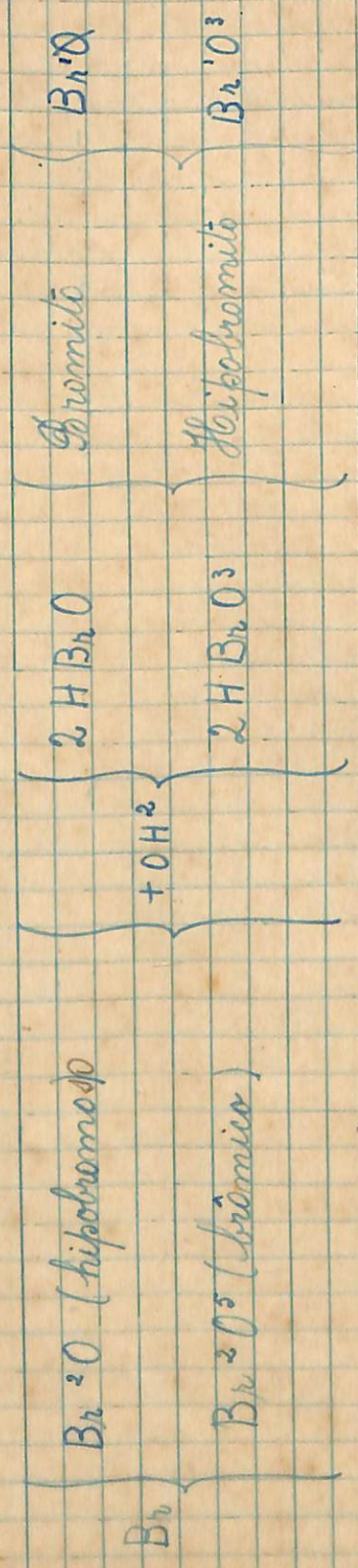
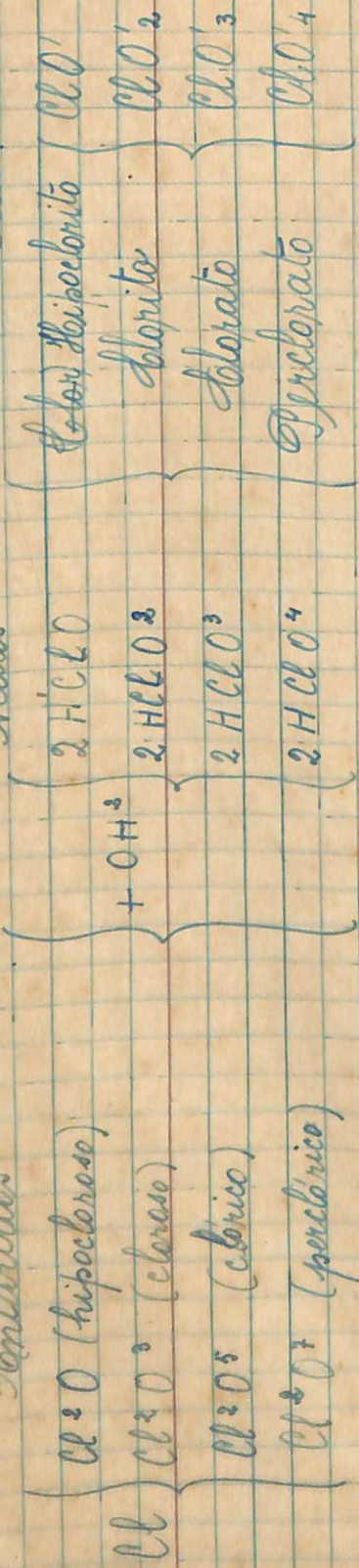
10/1

10/1

10/1

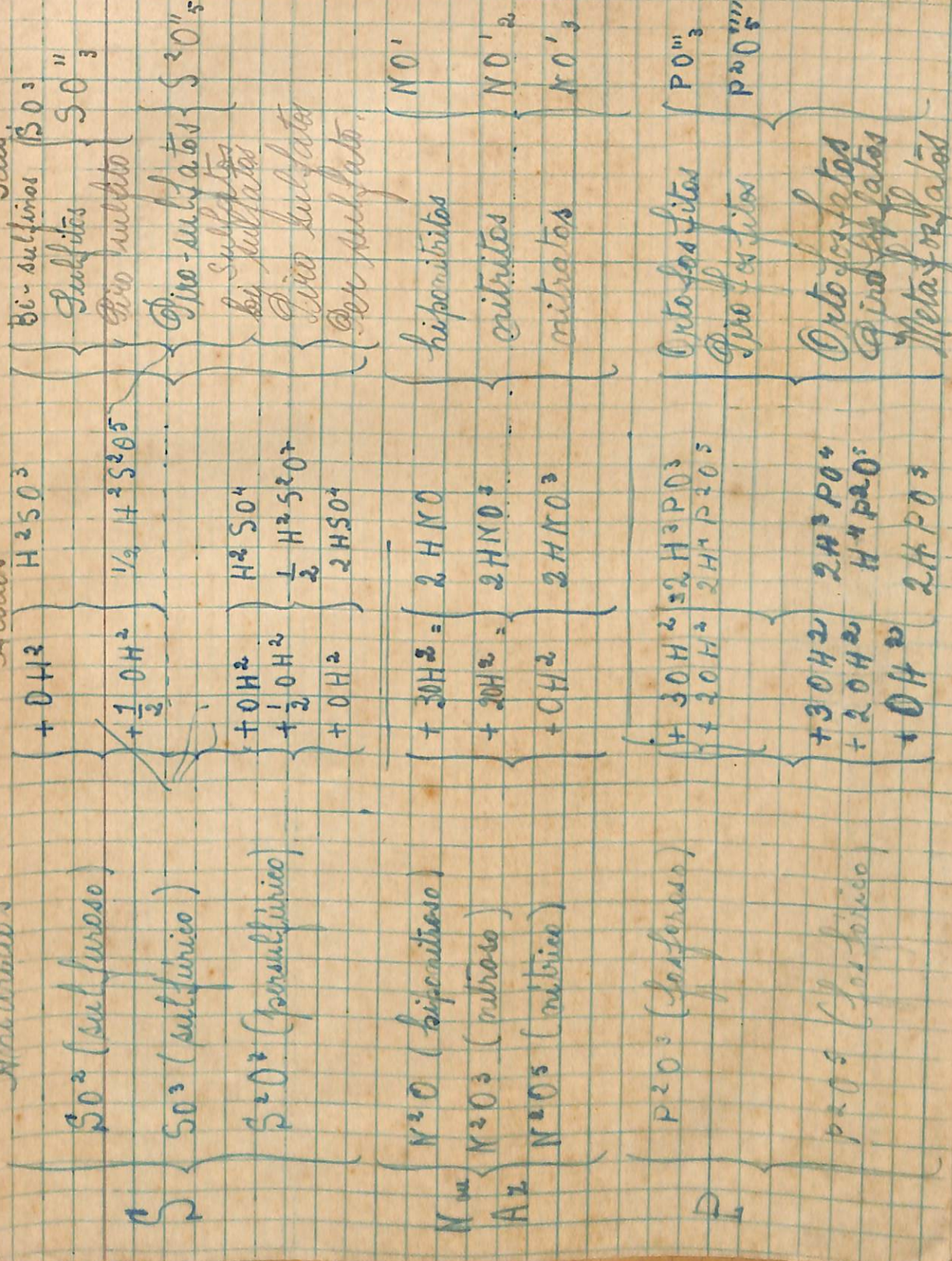
Ácidos

Sais



Ácidos

Sais



3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

3045 4.550.
+3045 5.450.

I Desenho convencional.

II Reta

III Persp. do quadrado com 2
lados paralelos ao quadro

IV 45°

V

VI Triângulo

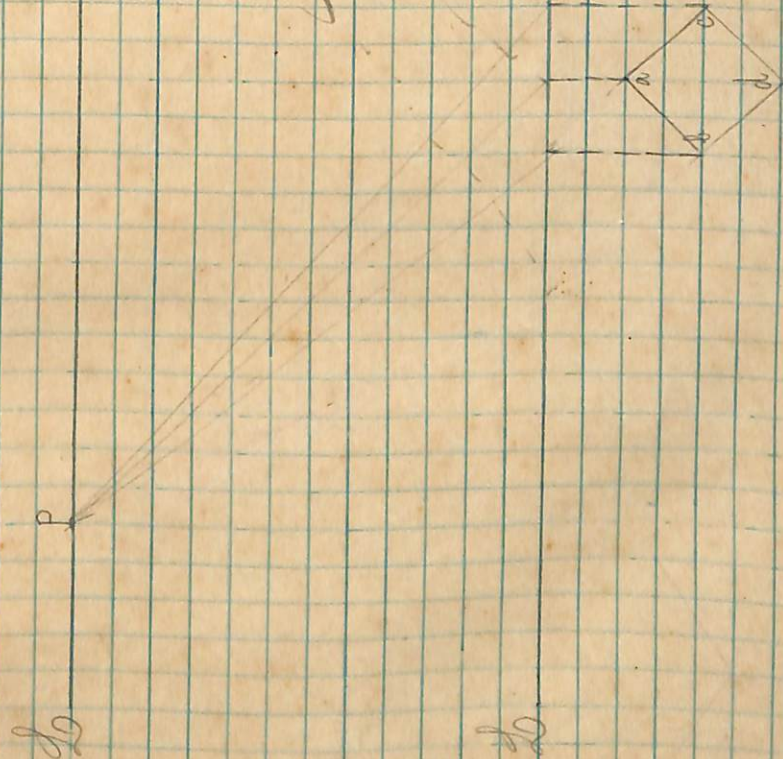
VIII Pentágono

IX Horiz.

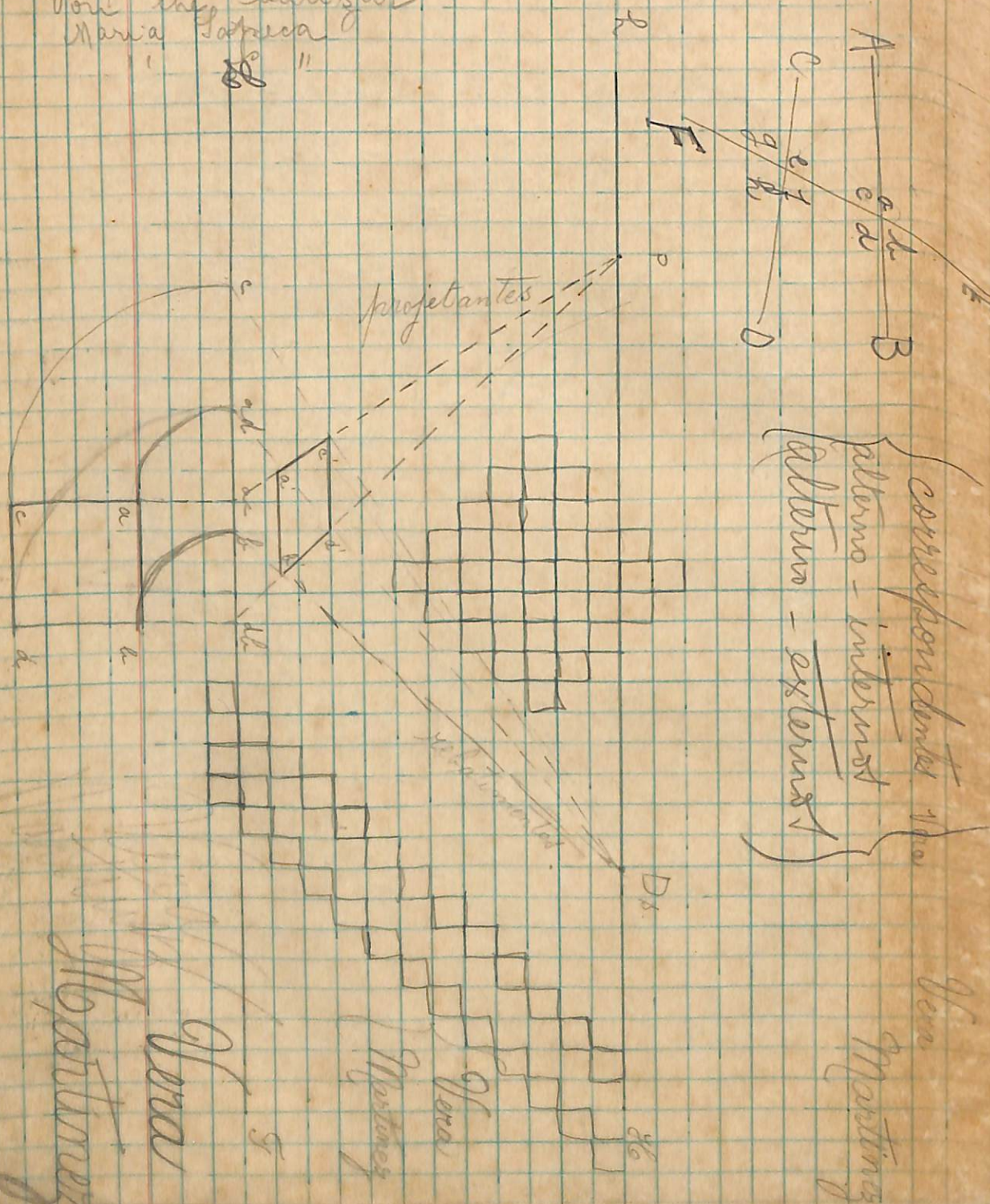
X Vert.

Escola das larg, alt.
e prof. Prisma hexag.
Cilindros

II Desenho convencional



ou vou dizer a E do mundo
 que vst e levada da meta
 do que não não dar
 Vou lhe batizar
 Maria Sabeca



correspondentes
 alternativo - interno
 alternativo - externo

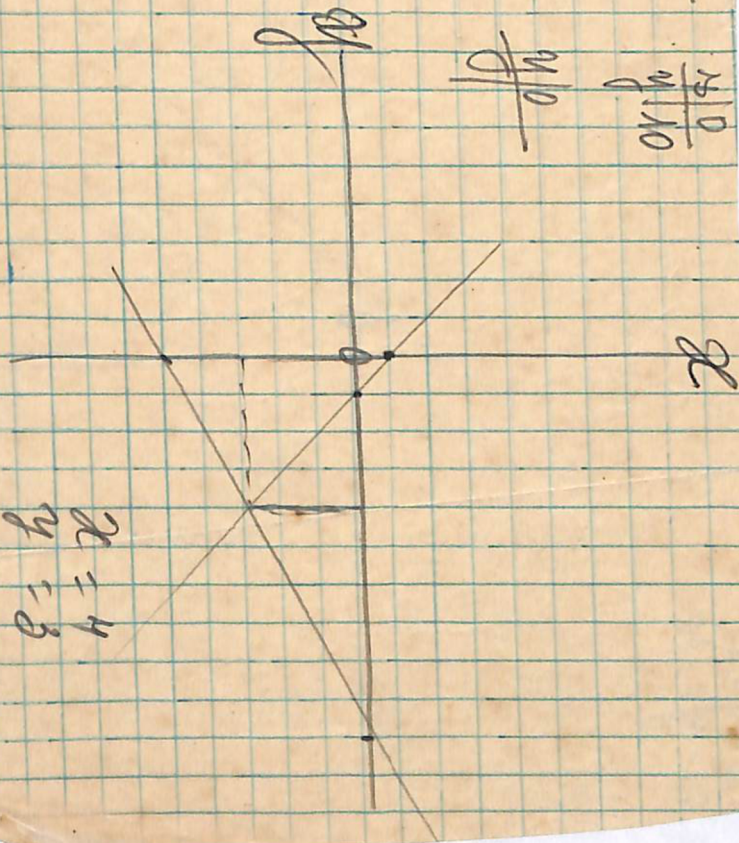
Seu
 Martins

Martins
 Severa
 Martins

14 13 8.

$$\frac{a}{b} = \frac{a}{b}$$
$$\frac{a}{b} = \frac{a}{b}$$

$$\frac{a}{b} = \frac{a}{b}$$
$$\frac{a}{b} = \frac{a}{b}$$

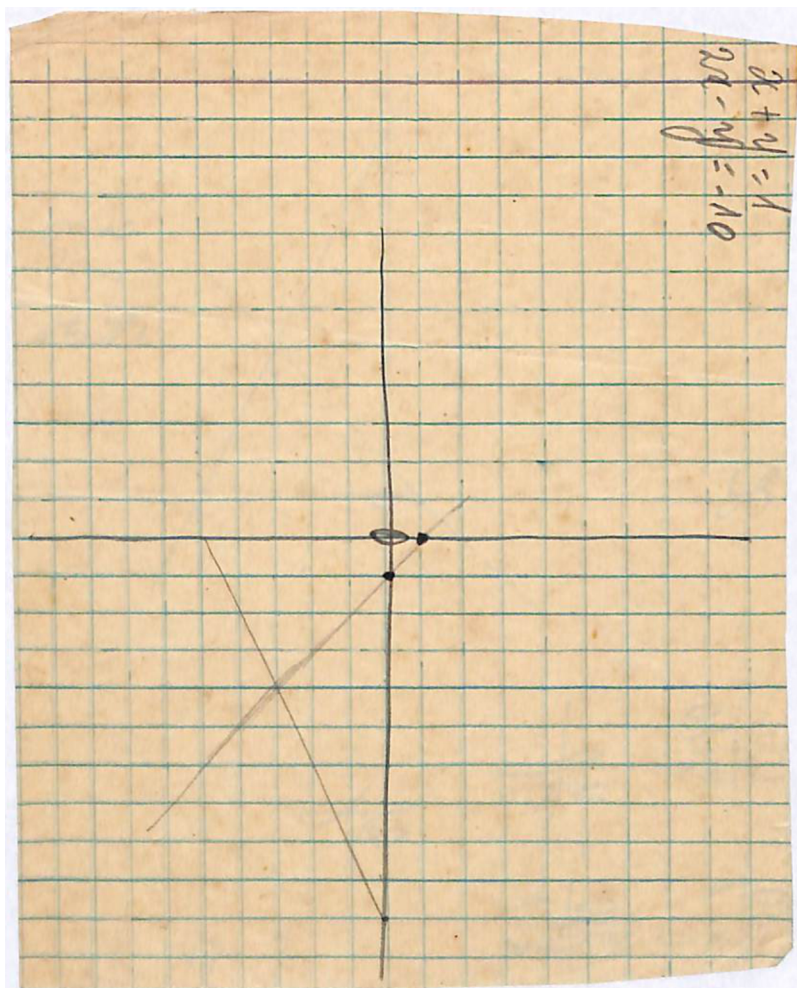


$x = 0$
 $y = 0$

Página solta 1 - frente

Localizada entre as páginas 15 e 18 deste arquivo

Dimensões (altura x largura): 12,1 cm x 10,1 cm



Página solta 1 - verso

Localizada entre as páginas 15 e 18 deste arquivo

Dimensões (altura x largura): 12,1 cm x 10,1 cm

- 1 - Diários de classe
- 2 - Fichas do aluno
- 3 - Livro de chamada
- 4 - Relatório do aluno
- 5 - Fichas de matrícula
- 6 - Planos de aula
- 7 -

2^{as} e 5^{as} - religião
 4^{as}

uniformes - abril

número
 alunos católicos { 1^{as} bonumbas - 20
 Teresopolis - 19
 " não católicos - 88

comprar 1 cad. para a escola

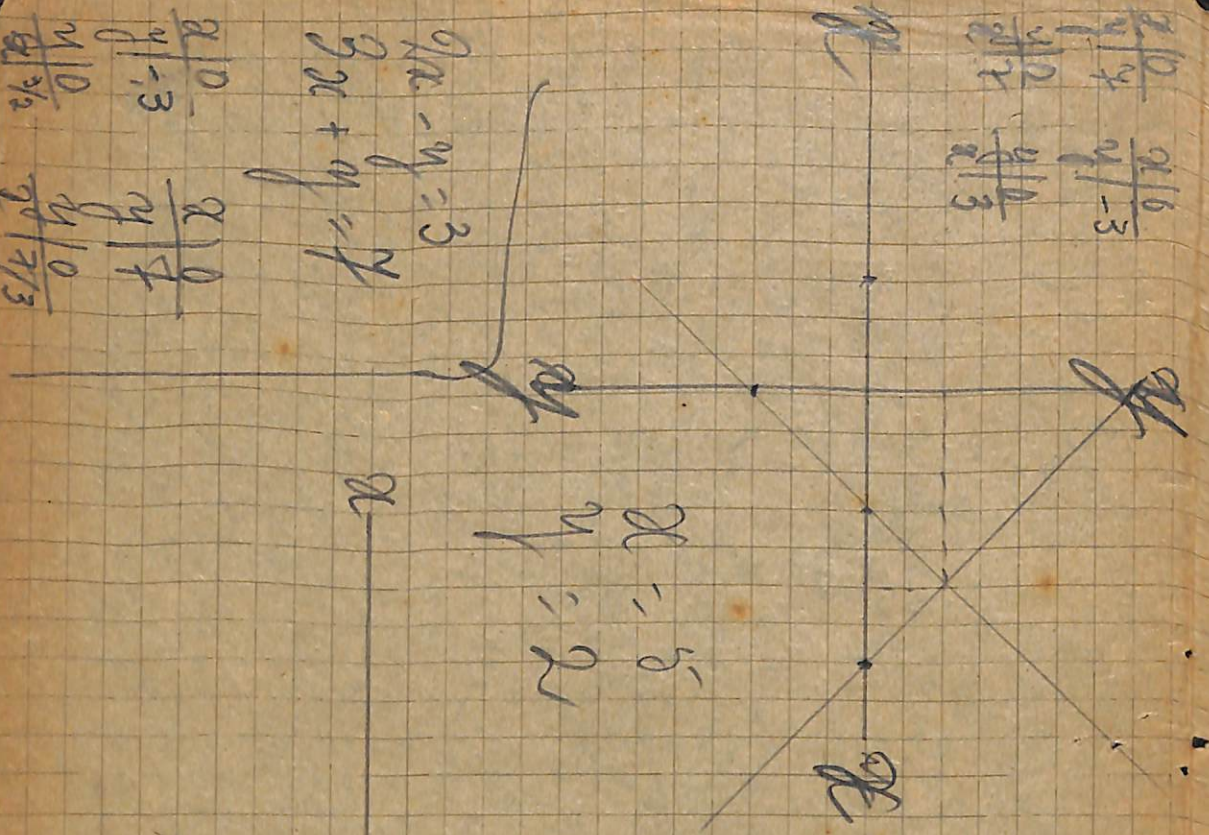
$$\frac{x}{12} = \frac{y}{10} = \frac{z}{3}$$

$$\frac{x}{12} = \frac{y}{10} = \frac{z}{3}$$

$$\frac{x}{10} = \frac{y}{10} = \frac{z}{3}$$

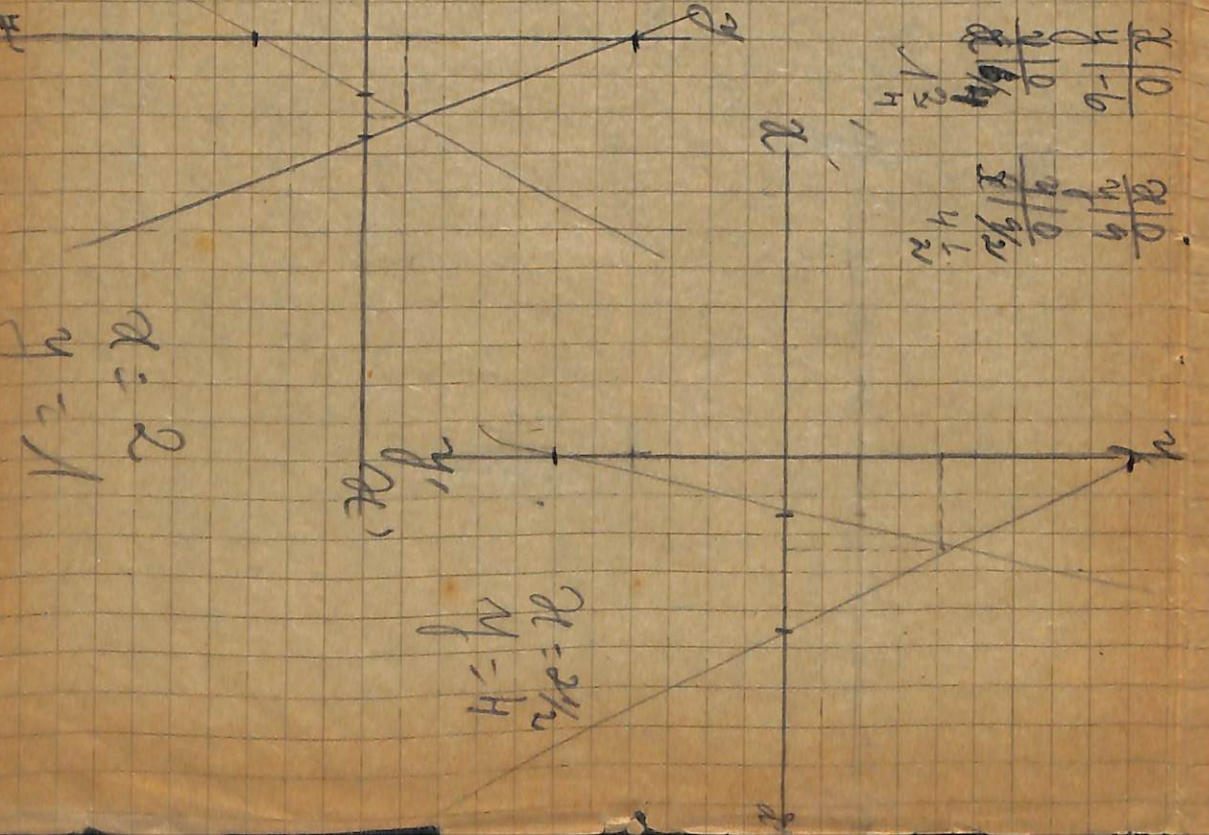
$$\frac{x}{10} = \frac{y}{10} = \frac{z}{3}$$

$$\frac{x}{10} = \frac{y}{10} = \frac{z}{3}$$



$$\frac{x}{10} = \frac{y}{10} = \frac{z}{3}$$

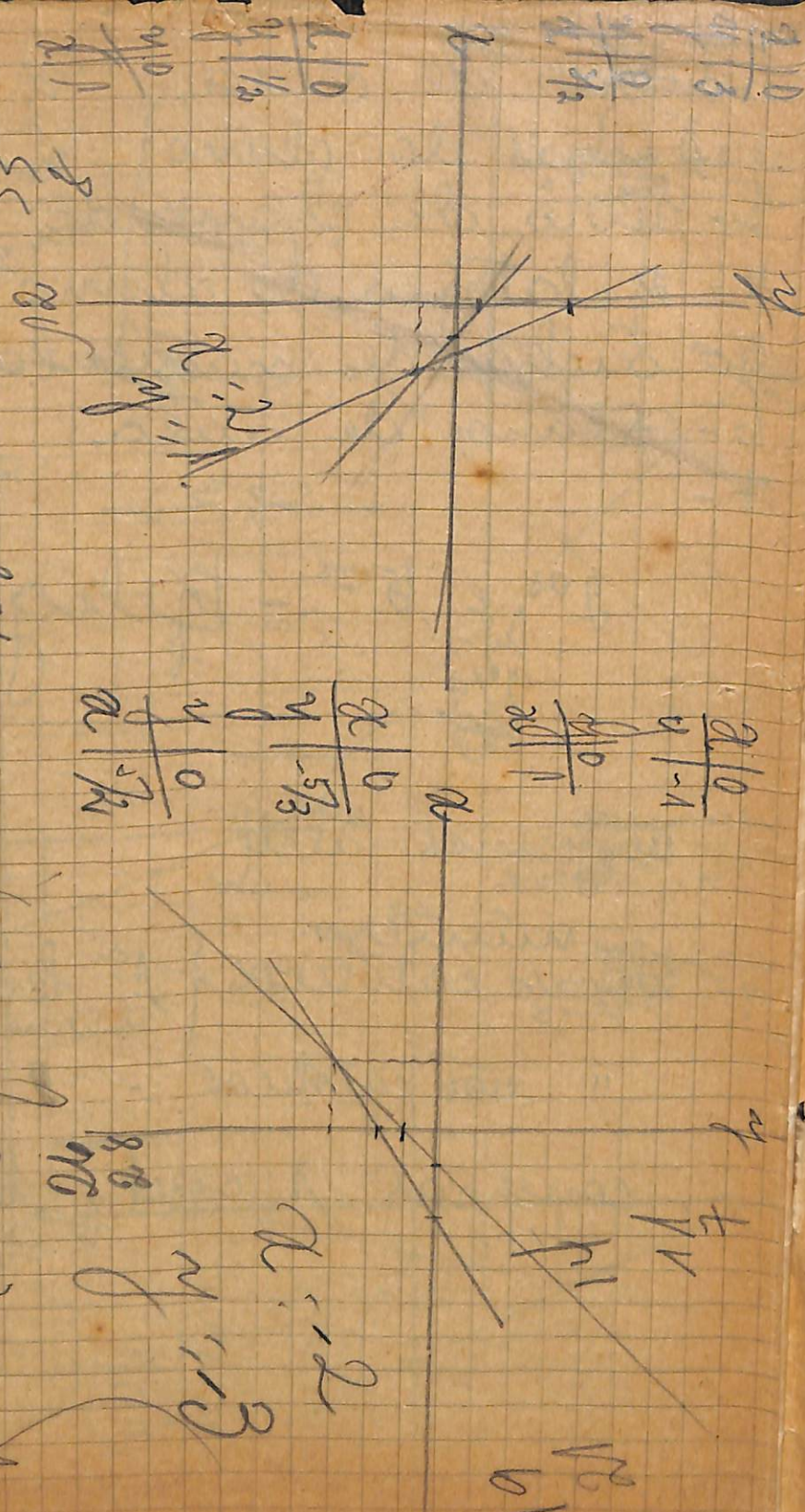
$$\frac{x}{10} = \frac{y}{10} = \frac{z}{3}$$



$$\frac{x}{10} = \frac{y}{10} = \frac{z}{3}$$

$$\frac{x}{10} = \frac{y}{10} = \frac{z}{3}$$

$36 - 64 + 10 = 2$
 $36 - 64 = -28$
 $-28 + 10 = -18$
 $2 = -18$
 $2 + 18 = 20$
 $20 = 20$



Variação da função $y = ax + b$.

I caso.
 $a > 0$. Quando o coeficiente de x é positivo, a função $y = ax + b$ é crescente.

II caso.
 $a < 0$. Quando o coeficiente de x é negativo, a função $y = -ax + b$ é decrescente.

Ex.:
 Representar, graficamente: $y = 2x + 1$

x	-3	-2	-1
y	7	5	3

x	0	1	2	3	4
y	1	3	5	7	9

$$3x - 2y = 4 \quad 2y = 4 - 3x$$

$$x = 0 \quad y = 2$$

$$y = -2 \quad x = 4$$

Tema para o dia 10/37

Representar graficamente: $y = 2x + 1$

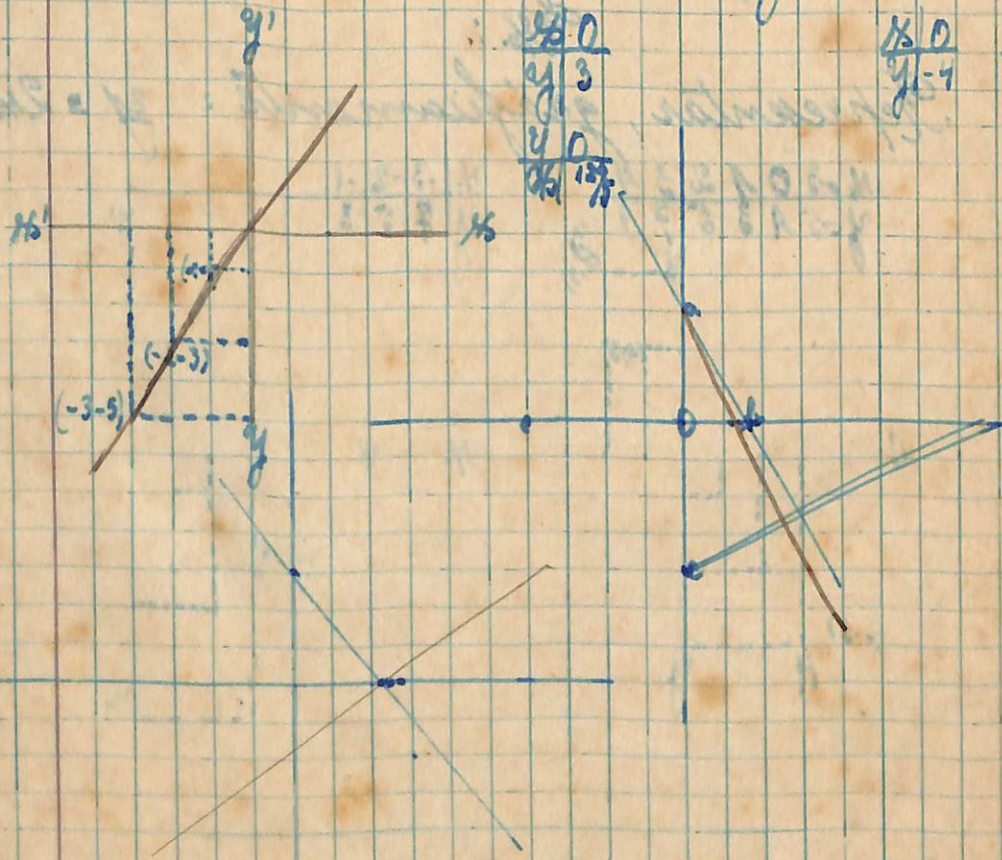
x	-3	-2	-1	0	1	2	3	4
y	-5	-3	-1	1	3	5	7	9

$$5x + 4y = 12$$

$$3x - 2y = 8$$

x	0	4
y	3	8

x	0	12/5
y	3	3/5



pinko

purple

blue

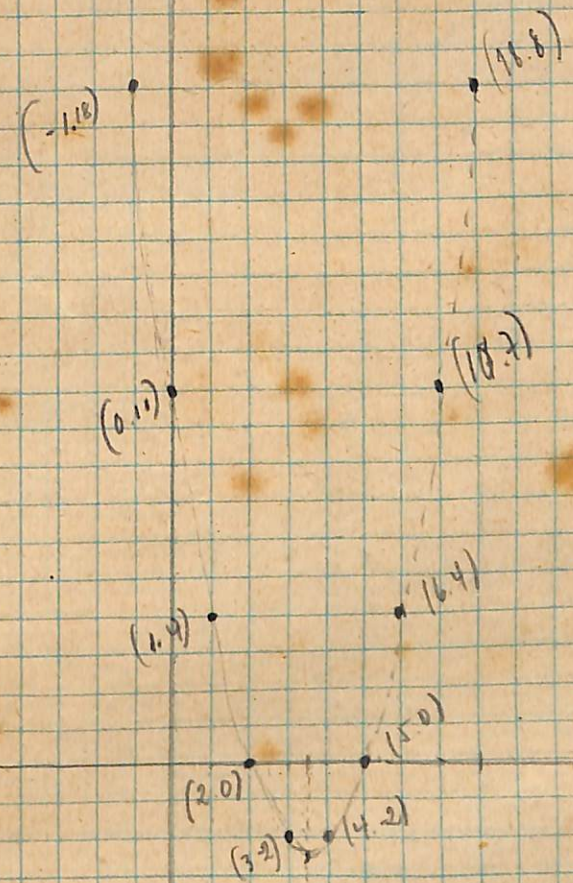
orange

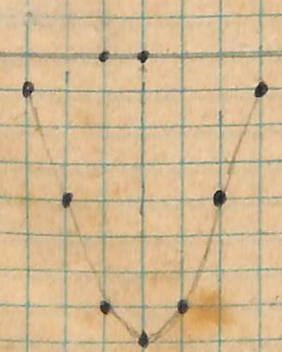
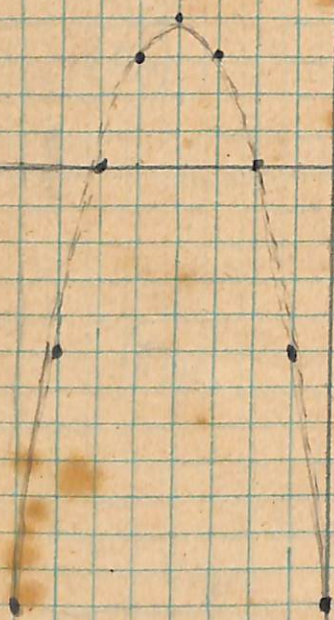
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50



y

x





Desconto.

Exopl. n=18

No dia 16 de Março, descontei uma letra de R\$ 350,00, cujo vencimento estava fixado para o dia 27 de Maio.

A taxa do desconto foi de 12% ao ano. Quanto recebi pela letra?

Um negociante descontou uma letra de R\$ 10.000, faltando ainda 117 dias para o vencimento. A taxa de desconto foi de 10% ao ano e o negociante teve de pagar ao seu corretor uma comissão de 1/2% sobre o valor nominal da letra. Quanto recebeu pela mesma?

5. Qual é o valor nominal de uma letra que foi descontada 120 dias antes do vencimento a 11,5% ao ano, sendo o desconto igual a R\$ 246,00.

6. Uma letra, cujo valor nominal é de R\$ 648, sofreu um desconto

$$x^2 - 7x + 10 = 0$$

$$\text{Raízes: } \frac{7 \pm \sqrt{7^2 - 4 \cdot 10}}{2} = \frac{7 \pm \sqrt{9}}{2} \begin{cases} x' = 5 \\ x'' = 2 \end{cases}$$

Igualando o trinômio a y.

$$x^2 - 7x + 10 = y$$

$$x^2 - 7x + 10 - y = 0$$

$$x = \frac{7 \pm \sqrt{7^2 - 4(10 - y)}}{2}$$

$$x = \frac{7 \pm \sqrt{49 - 40 + 4y}}{2}$$

$$x = \frac{7 \pm \sqrt{9 + 4y}}{2}$$

Fazendo y = 0

$$x = \frac{7}{2} = 3\frac{1}{2} \text{ (é o meio da curva)}$$

fazendo x = 0

$$9 + 4y = 0$$

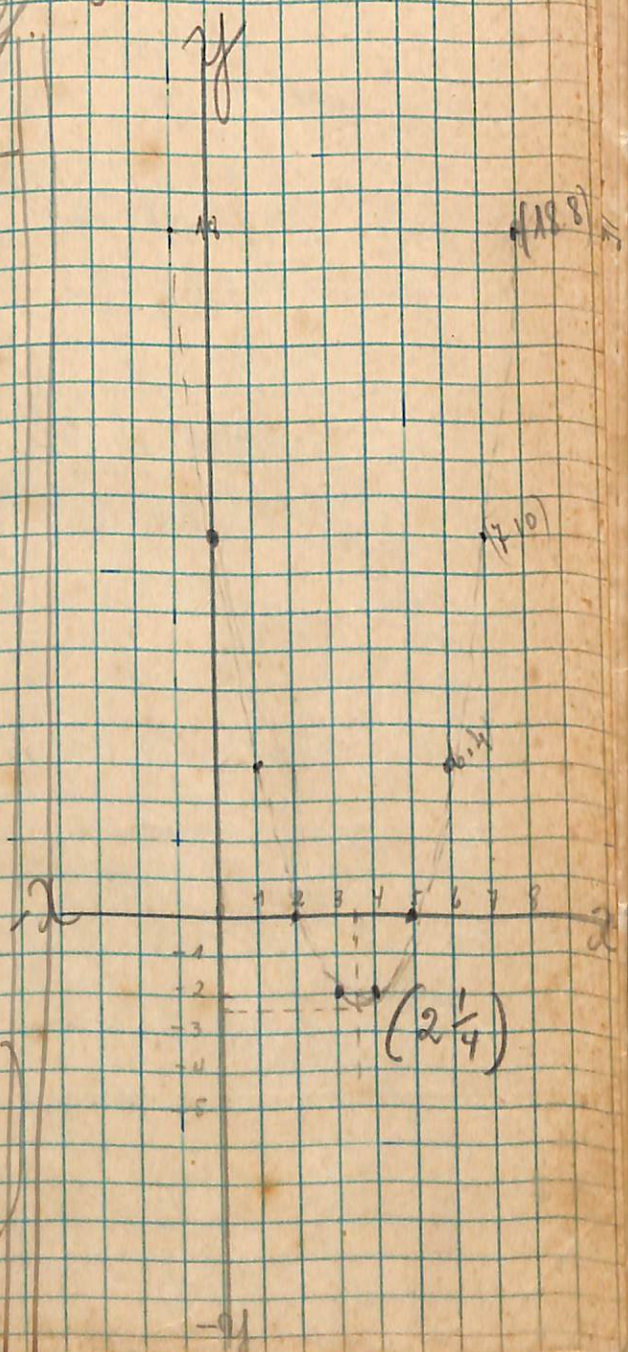
$$4y = -9$$

$$y = -\frac{9}{4}$$

$$y = -2\frac{1}{4}$$

(ponto extremo)

(O meio da curva é igual ao coeficiente de x = 2)



$x = 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 = 23 = 24 = 25 = 26 = 27 = 28 = 29 = 30 = 31 = 32 = 33 = 34 = 35 = 36 = 37 = 38 = 39 = 40 = 41 = 42 = 43 = 44 = 45 = 46 = 47 = 48 = 49 = 50$

Usava q. Martini

