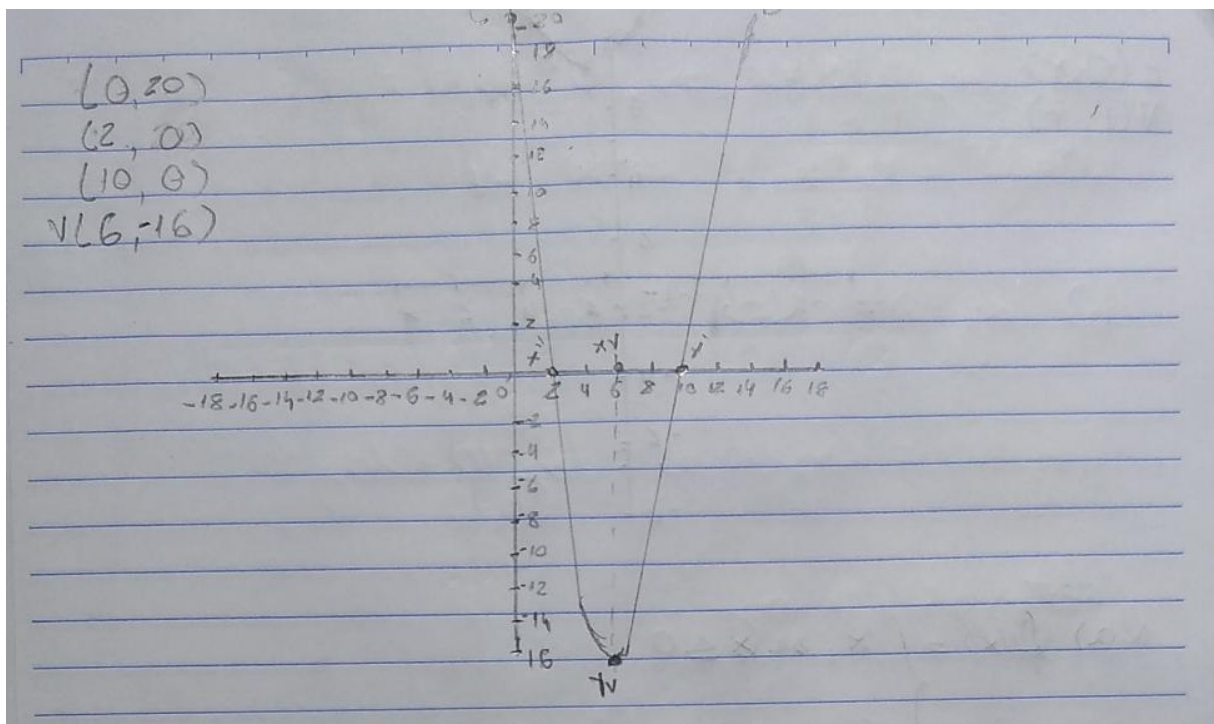


Verificação de aprendizagem

Lucas Barbosa Brancalhão

$$\begin{aligned} 1-0) f(x) &= x^2 - 12x + 20 & (0, 20) \\ \Delta &= b^2 - 4 \cdot a \cdot c & x = \frac{-b \pm \sqrt{\Delta}}{2 \cdot a} \\ \Delta &= 12^2 - 4 \cdot 1 \cdot 20 & \\ \Delta &= 144 - 80 & \\ \Delta &= 64 & x = \frac{-(-12) \pm \sqrt{64}}{2 \cdot 1} \\ x_v &= \frac{-b}{2 \cdot a} = \frac{-(-12)}{2 \cdot 1} = \frac{12}{2} = 6 & x = \frac{-(-12) \pm 8}{2} = x' = \frac{12+8}{2} = \frac{20}{2} = 10 \\ y_v &= \frac{-\Delta}{4 \cdot a} = \frac{-64}{4 \cdot 1} = -16 & \\ v(x_v, y_v) &= (6, -16) & \\ x'' &= \frac{-(-12) - 8}{2} = \frac{12-8}{2} = \frac{4}{2} = 2 & \end{aligned}$$



b) $f = x^2 - 2x + 8$ $(0, 8)$ $a = 1, b = -2, c = 8$

$\Delta = b^2 - 4 \cdot a \cdot c$ $\text{No \textcancel{x} existem raizes reais}$

$\Delta = (-2)^2 - 4 \cdot 1 \cdot 8$

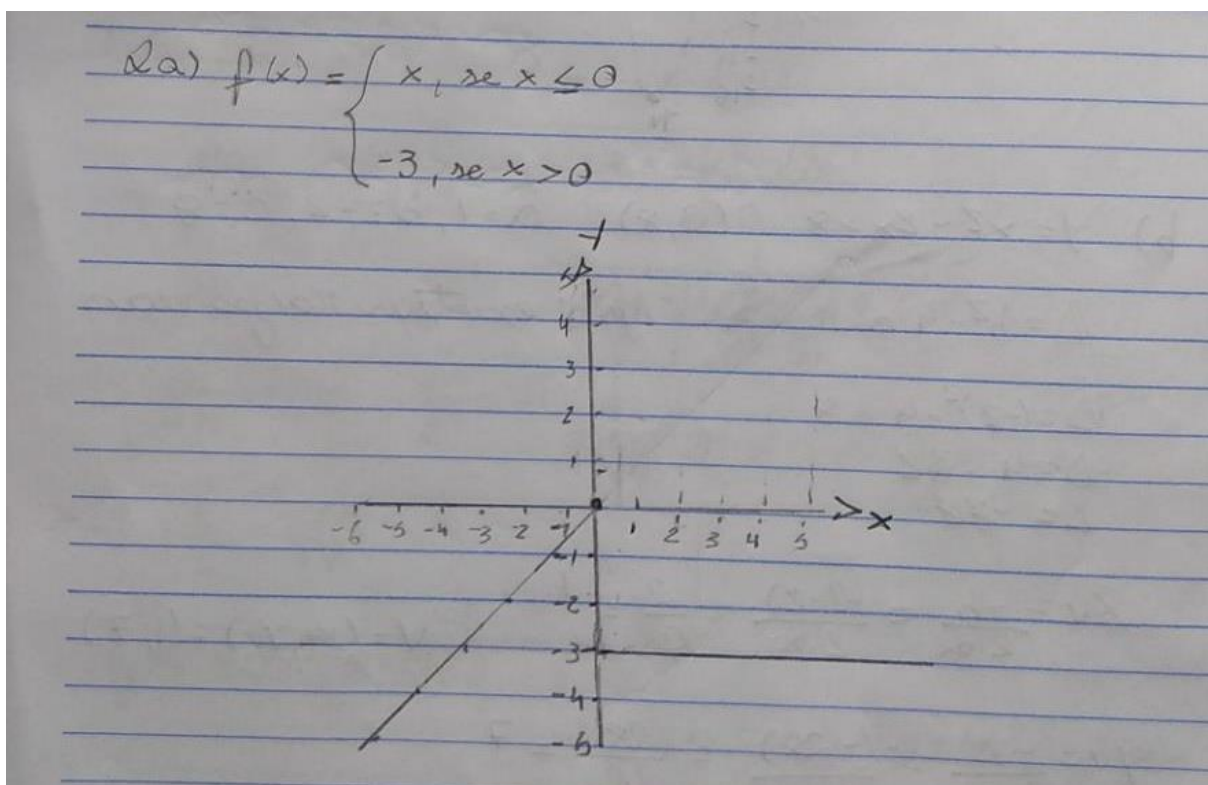
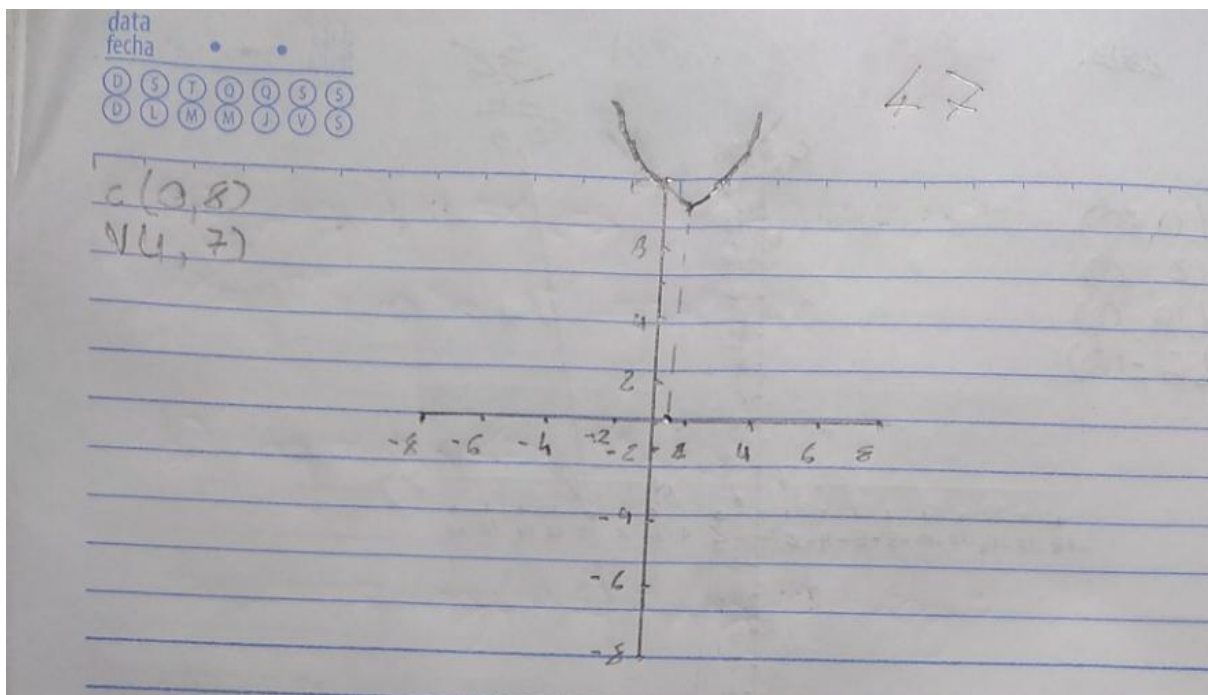
$\Delta = 4 - 32$

$\Delta = -28$

$x_v = \frac{-b}{2 \cdot a} = \frac{-(-2)}{2 \cdot 1} = \frac{2}{2} = 1$

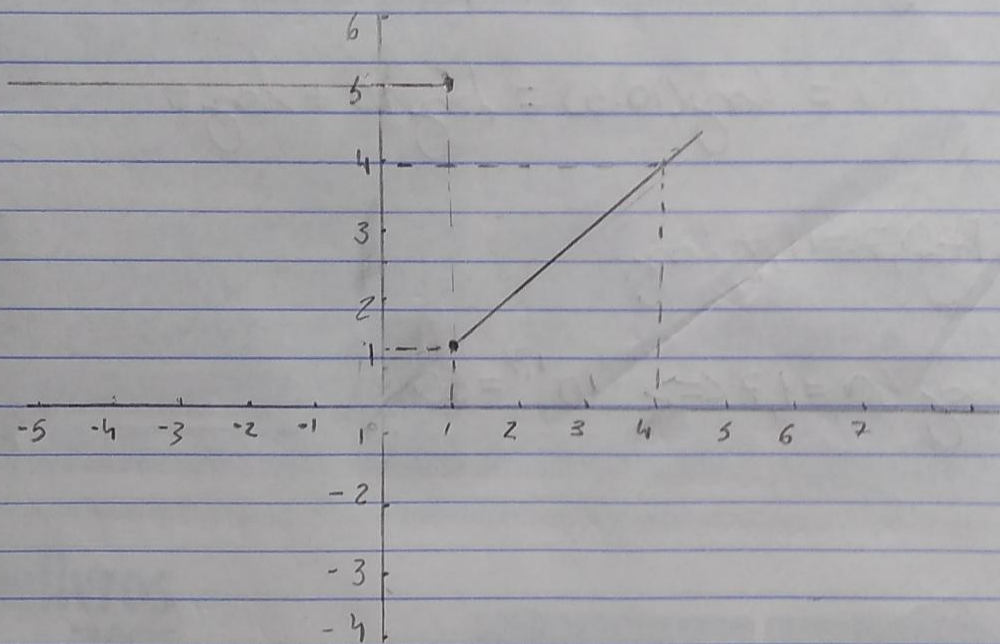
$V = (x_v, y_v) = (1, 7)$

$y_v = \frac{-\Delta}{4 \cdot a} = \frac{-(-28)}{4 \cdot 1} = \frac{28}{4} = 7$



$$b) f(x) = \begin{cases} x^2, & \text{se } x \leq 1 \\ 5, & \text{se } x > 1 \end{cases}$$

$$\begin{aligned} 1 &= 1 \\ 2 &= 4 \\ 3 &= 9 \\ 4 &= 16 \\ 5 &= 25 \end{aligned}$$



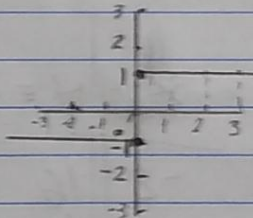
$$3. \infty \quad y = \frac{|x|}{x} = \begin{cases} \frac{x}{x} = 1, & \text{p/ } x \geq 0 \\ -\frac{x}{x} = -1, & \text{p/ } x < 0 \end{cases}$$

$$\frac{-x}{x}$$

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

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

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



$$\frac{x}{x}$$

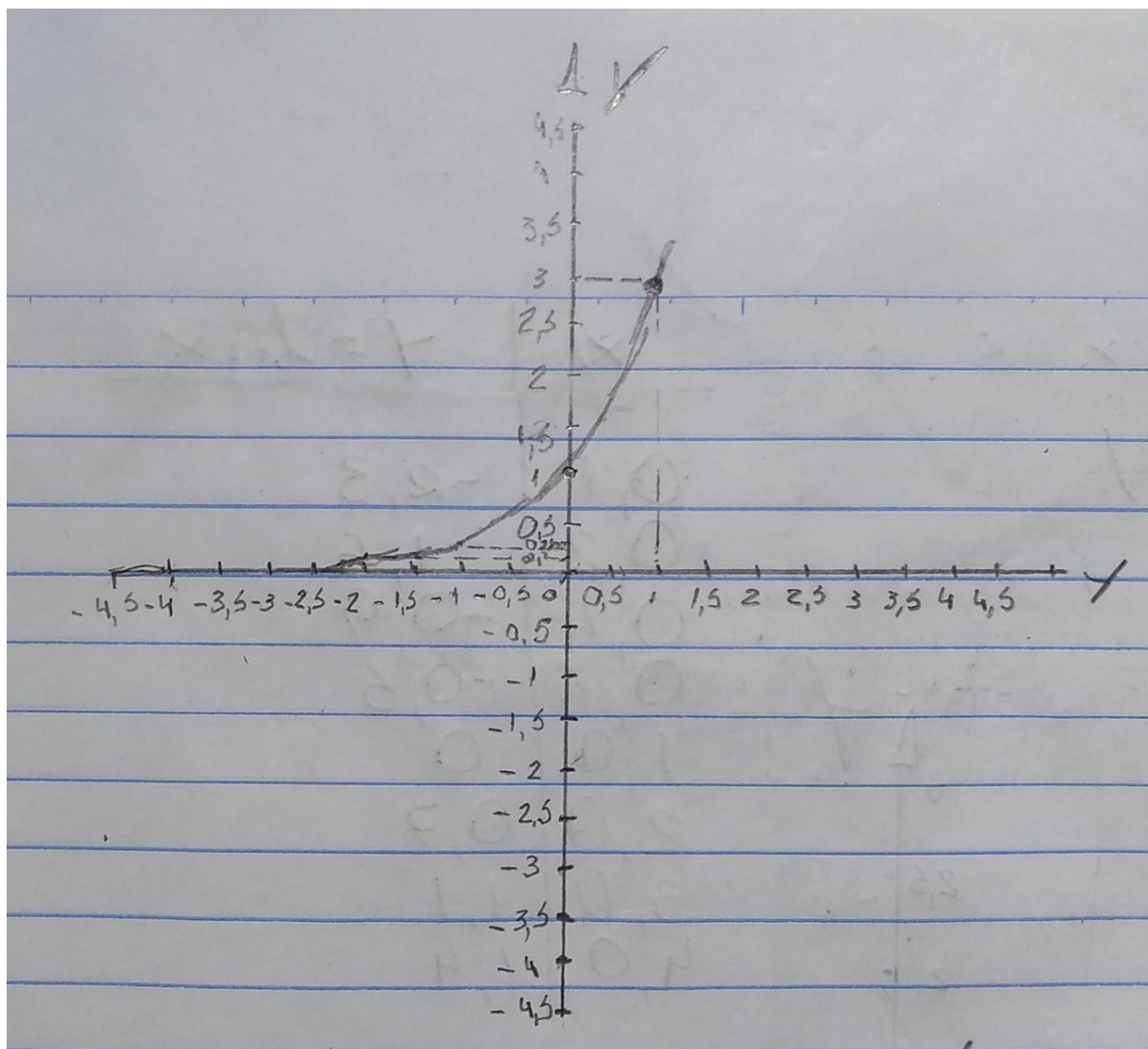
$$1 = \frac{1}{1} = 1$$

$$2 = \frac{2}{2} = 1$$

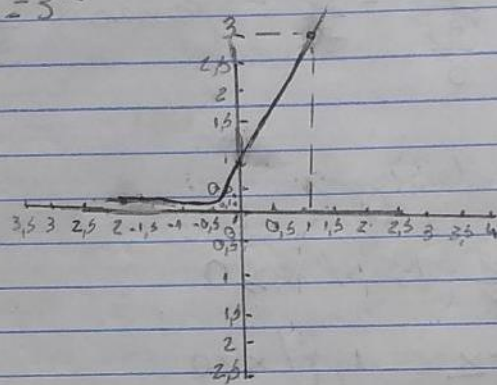
$$3 = \frac{3}{3} = 1$$

$$b) \quad y = |x-1| + 3$$

$$y = \begin{cases} x+2, & \text{p/ } x \geq 1 \\ -x+4, & \text{p/ } x < 1 \end{cases} \quad \begin{array}{l} x-1+3 = x+2 \\ -(x-1)+3 = -x+1+3 \\ = -x+4 \end{array}$$



4a) $y = 3^x$



-2	0,1
-1	0,3
0	1
1	3
2	9

b) $y = \left(\frac{1}{4}\right)^x$

x	$y = \frac{1}{4^x}$
-2	16
-1	4
0	1
1	0,25
2	0,1

5a) $\log 0,10 = x \Leftrightarrow 10^x = 0,10 = 10^{-1}$

$10^x = \frac{1}{10} = 10^{-1} = 10^{-1} \Rightarrow x = -1$

b) $\log 50 = x \Leftrightarrow 10^x = 50$

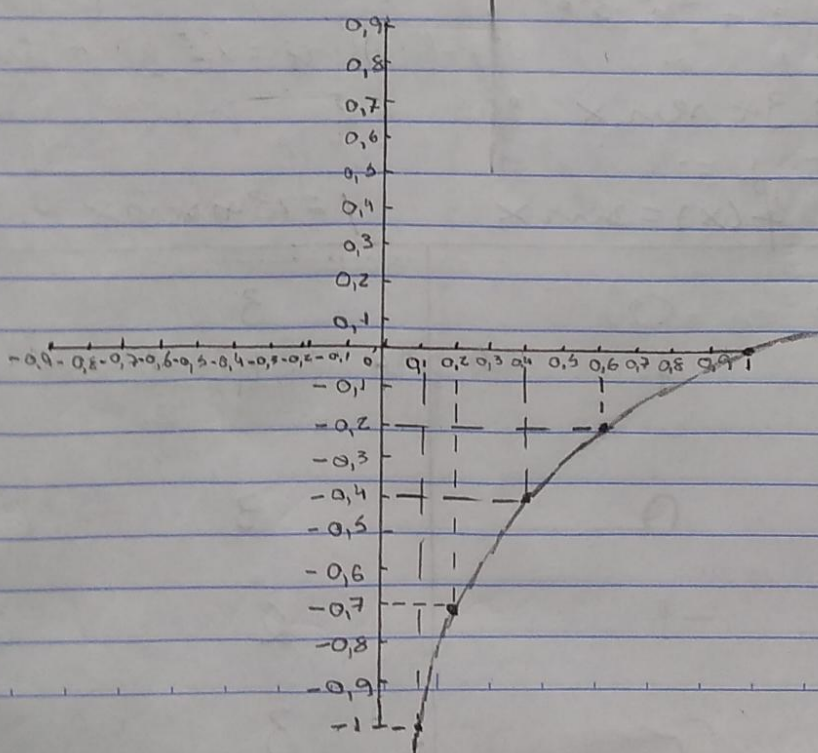
$\log 50 = \log(10 \cdot 5) = \log 10 + \log 5$

$1 + 0,7 = 1,7$

$\log 50 = 1,7 \Leftrightarrow 10^{1,7} = 50$

6a) $y = \log_{10} x$

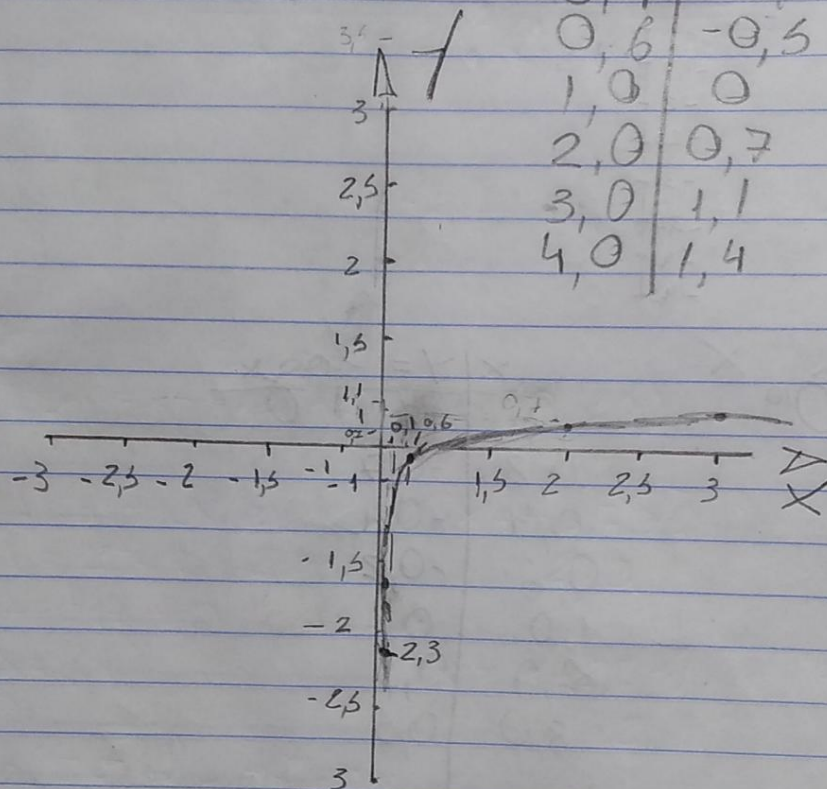
x	y = $\log_{10} x$
0,1	-1
0,2	-0,7
0,4	-0,4
0,6	-0,2
1,0	0
2,0	0,3
3,0	0,5



6 b) $y = \ln x$

$y = \log_e x$

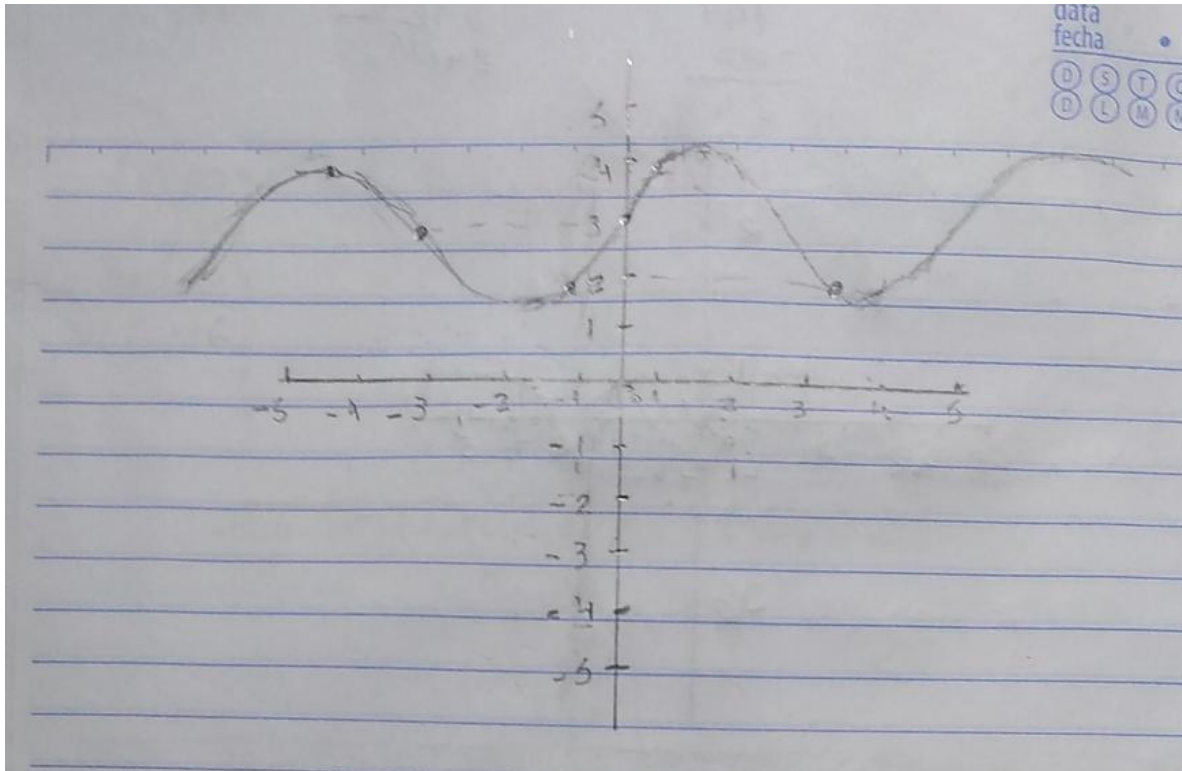
x	$y = \ln x$
0,1	-2,3
0,2	-1,6
0,4	-0,9
0,6	-0,5
1,0	0
2,0	0,7
3,0	1,1
4,0	1,4



7a) $y = 3 + \sin x$

x	$f(x) = \sin x$	$y = 3 + \sin x$
0	0	3
$\frac{\pi}{2}$	1	4
π	0	3
$\frac{3\pi}{2}$	-1	2
2π	0	3

1



7b) $y = -\cos x$

x	$f(x) = \cos x$	$y = -\cos x$
0	1	-1
$\frac{\pi}{2}$	0	0
π	-1	1
$\frac{3\pi}{2}$	0	0
2π	1	-1

