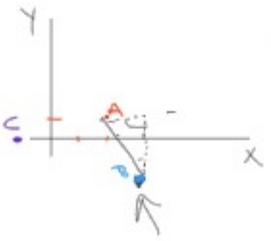
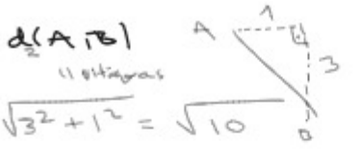
exercises in green

1. Distance between points



A = (2,1)
B = (3,-2)
C = (-1,0)

Euclidean $d_2(A,B)$ = 11 diagonal



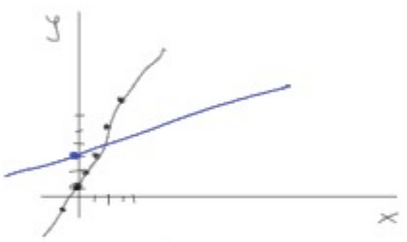
$\sqrt{3^2+1^2} = \sqrt{10}$

d(A,C)

d(B,C)

$d_1(A,B) = 3+1 = 4$

2. Basic Functions



2.2. Linear Function

$y = 2x+1$

slope, y-intercept

$y = m \cdot x + n$

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

$y = \frac{1}{2}x + 3$

$y = -3x + 8$

$y = 1'90 \cdot x$

extras luz

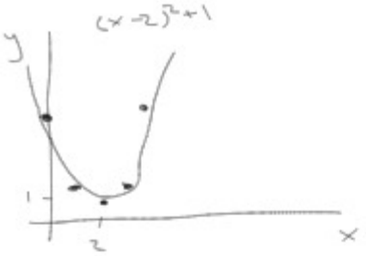
$y = 30 \cdot x + 20$ (positive)

x	y
0	20
1	50
2	80
3	110

2.3. Polynomials

$y = x^2 - 4x + 5$

$(x-2)^2 + 1$

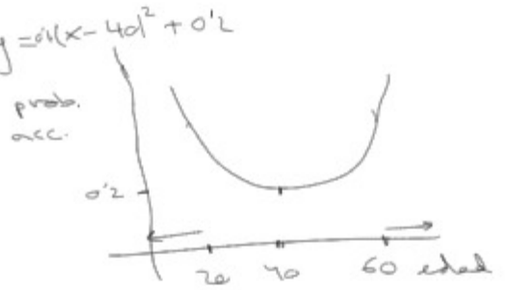


x	y
0	5
1	2
2	1
3	2
4	5

$y = (x-a)^2 + b$

(a,b) vertex

$y = 0'1(x-40)^2 + 0'2$



$y = x^4 - 7x^2 - 3x - 11$

2.4.

$\sqrt{100} = \pm 10$

$\sqrt{1} = \pm 1$

$\sqrt{9} = \pm 3$

$\sqrt{0'01} = 0'1$

5. Exponential

I_n = interest by n

$I_n = 1 \, I_{n-1} + 0'1 \, I_{n-1} = 1'1 \, I_{n-1}$

$I_{n+1} = 1'1 \, I_n = 1'1^2 \cdot I_{n-1}$

$I_{n+2} = 1'1^2 \cdot I_n$

$I_{n+10} = 1'1^{10} \cdot I_n$

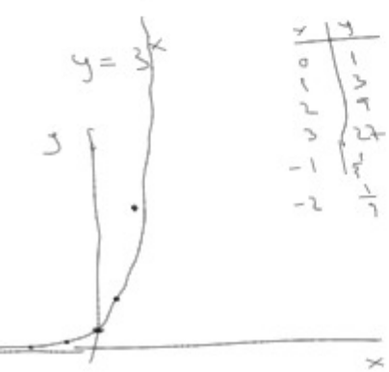
$3a+2a$

$\sqrt{a} = b \iff a = b^2 = b \cdot b$

$y = \sqrt{x}$

x	y
0	0
1	1
4	2
9	3
16	4
25	5
5	$\sqrt{5}$

$y = 3^x$



x	y
0	1
1	3
2	9
3	27
-1	$\frac{1}{3}$
-2	$\frac{1}{9}$