

# **Mi Universidad**

## **cuadro sinóptico**

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*Nombre del tema: Problemario*

*Nombre de la Materia: Calculo*

*Nombre del profesor: Juan José Ojeda Trujillo*

*Nombre de la Maestría: Bachillerato En Enfermería*

*Cuatrimestre: 3*





Q1	Q2	Q3	Q4

Q)  $Y = 3x^2 - 8$

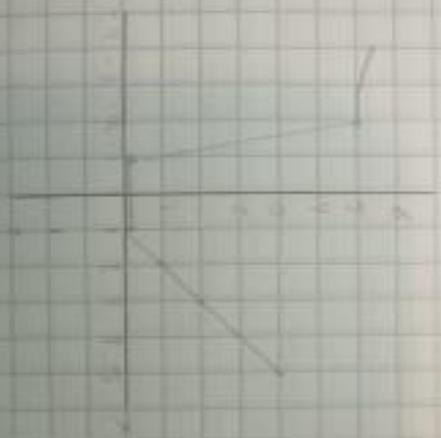
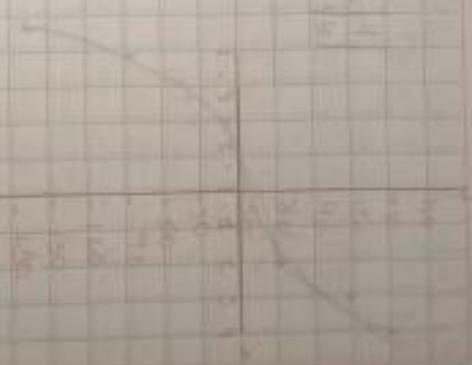
Domain X | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6

Range Y | 5 | -8 | -5 | 4 | 11 | 20 | 31

$Y = (x^2 - 1) (x + 1)$

Domain X | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6

Range Y | 0 | -8 | -5 | 4 | 11 | 20 | 31





Two to function  $F$  y  $g$  into one or more  
 $A \rightarrow (x) = 3x^2$  y  $B \rightarrow (x) = x^2 + 4$  find  $(F \circ G)(x)$  y  $(G \circ F)(x)$

$$F(x) = 3x^2$$

$$G(x) = x^2 + 4$$

$$F \circ G(x) = 3(x^2 + 4)^2$$

$$= 3(x^4 + 8x^2 + 16)$$

$$= 3x^4 + 24x^2 + 48$$

$$G \circ F(x) = (3x^2)^2 + 4$$

$$= 9x^4 + 4$$

$$F \circ F(x) = 3(3x^2)^2$$

$$= 3(9x^4) = 27x^4$$

$$G \circ G(x) = (x^2 + 4)^2 + 4$$

$$= x^4 + 8x^2 + 16 + 4$$

$$= x^4 + 8x^2 + 20$$

$$F \circ G \circ F(x) = 3((3x^2)^2 + 4)^2$$

$$= 3(9x^4 + 4)^2$$

$$= 3(81x^8 + 72x^4 + 16)$$

$$= 243x^8 + 216x^4 + 48$$

$$G \circ F \circ G(x) = ((3x^2)^2 + 4)^2 + 4$$

$$= (9x^4 + 4)^2 + 4$$

$$= 81x^8 + 72x^4 + 16 + 4$$

$$= 81x^8 + 72x^4 + 20$$

DIA

NEE

ANO

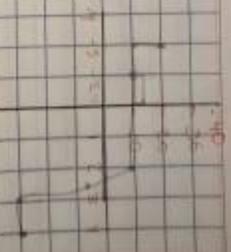
FOLIO

1) Dominio  
Rango

x	-1	-2	-1	0	1	2	3	4
y	1	1	2	3	4	5	6	7

Dominio  
Rango

x	1	2	3	4	5	6	7	8
y	1	2	3	4	5	6	7	8



3. Resolva as equações abaixo no conjunto dos reais

a)  $f(x) = x^2 - 7x + 12 = 0$   $f(x) = x^2 - 7x + 12 = (x-3)(x-4) = 0$

$f(x) = 0 \Rightarrow x = 3$  ou  $x = 4$

$f(x) = x^2 - 5x + 6 = 0 \Rightarrow (x-2)(x-3) = 0$

$f(x) = 0 \Rightarrow x = 2$  ou  $x = 3$

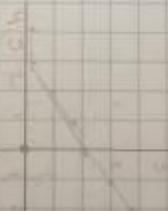


	IMA	IMA	IMA	IMA
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Find the range of the function  $f(x) = x^2 - 4x + 3$  for  $x \in [1, 5]$ .  
 No. of intervals is 4. The range is  $[0, 4]$ .

M)  $f(x) = x^2 - 4x + 3$

Domain:  $[1, 5]$   
 Range:  $[0, 4]$



N)  $f(x) = 5x^2 - 2x + 1$

Domain:  $[1, 5]$   
 Range:  $[4, 14]$

$f(x) = (x^2 - 2x + 1) + 4x - 2x + 1$

$f(x) = (x-1)^2 + 2x + 1$

$f(x) = (x-1)^2 + 2(x-1) + 1 + 2 + 1$

$f(x) = (x-1)^2 + 2(x-1) + 4$

