Programa educativo: Mercadotecnia Internacional	**Asignatura:** Matemáticas Administrativas	**Semestre:** 2
Nombre del docente: Juan Antonio Hernández Mejía	**Ciclo escolar**: 2019 1S	**Grupo:** MI-IMAD-1901-B1-003.

Jorge Fernando Gómez Pallares

23 02 2019

UnADM

Universidad Abierta y a Distancia de México

BINOMIOS AL CUADRADO

$(a+b)^2 = a^2 + 2ab + b^2$

$(a-b) = a^2 - 2ab + b^2$

(a) $(x-8)^2 = x^2 - 2(x)(8) + (8)^2$
$= x^2 - 16x + 64$

(b) $(m+10)^2 = m^2 + 2(m)(10) + (10)^2$
$= m^2 + 20m + 100$

(c) $(1-b)^2 = 1^2 - 2(1)(b) + (b)^2$
$1 - 2b + b^2$

(d) $(5x+6y)^2 = (5x)^2 + 2(5x)(6y) + (6y)^2$
$25x^2 + 60xy + 36y^2$

(e) $(2a-1)^2 = (2a)^2 - 2(2a)(1) + (1)^2$
$4a^2 - 4a + 1$

(f) $(p-6)^2 = (p)^2 - 2(p)(6) + (6)^2$
$p^2 - 12p + 36$

(g) $(4-m)^2 = 4^2 - 2(4)(m) + (m)^2$
$16 - 8m + m^2$

(h) $(4x^3+5y)^2 = (4x^3)^2 + 2(4x^3)(5y) + (5y)^2$
$16x^6 + 40x^3y + 25y^2$

(i) $(2a^6-7b^4)^2 = (2a^6)^2 - 2(2a^6)(7b^4) + (7b^4)^2$
$4a^{12} - 28a^6b^4 + 49b^8$

BINOMIOS CONJUGADOS

(a) $(m-n)(m+n) = m^2 + mn - mn - n^2$
$m^2 - n^2$

(b) $(9-a)(9+a) = 9^2 + 9a - 9a - a^2$
$81 - a^2$

(c) $(4m-9n)(4m+9) = 4m^2 + 36m - 36mn - 9^2n$
$16m^2 + m - 81n$

(d) $(xy-z)(xy+z)$ $xy^2 + xyz - xyz - z^2$
$xy^2 - z^2$

(e) $(2b-3c)(3c+2b)$ $6bc + 4b^2 - 9c^2 - 6bc$
$4b^2 - 9c^2$

(f) $(3m^3-8)(3m^3+8)$ $9m^6 + 24m^3 - 24m^3 - 64$
$9m^6 - 64$

(g) $(6x^5+1)(6x^5-1)$ $36x^{10} - 6x^5 + 6x^5 - 1$
$36x^{10} - 1$

(h) $(k^2-8)(k^2+8)$ $k^4 + 8k^2 - 8k^2 - 64$
$k^4 - 64$

(i) $(5x^4y+4z)(5x^4y-4z)$ $25x^8y^2 - 20x^4yz + 20x^4yz - 16z^2$
$25x^8y^2 - 16z^2$

BINOMIOS CON TERMINO COMÚN

(a) $(x-8)(x+5) = x^2+5x-8x-40$
$x^2(5-8)x-40$
$x^2-3x-40$

(b) $(m+7)(m+4) =$
$m^2(4+7)m+28$
$m^2+11m+28$

(c) $(x-6)(x-5) =$
$x^2(-5-6)x+30$
$x^2-11x+30$

(d) $(n-3)(n+4) = n^2(4n-3n)-12$
$n^2(4-3)n-12$
$n^2+1n-12$

(e) $(a+3)(a-9) = a^2-(9+3a)-27$
$a^2(-9+3)a-27$
$a^2-6a-27$

(f) $(x-5)(x+2) = x^2+2x-5x-10$
$x^2(2-5)x-10$
$x^2-3x-10$

(g) $(x-1)(x-8)$ $x^2(-8x-1x)+8$
$x^2(-8-1)x+8$
x^2-9x+8

(h) $(m+3)(m+2) =$
$m^2(2+3)m+6$
m^2+5m+6

(i) $(x-10)(x+9)$
$x^2(9-10)x-90$
$x^2-1x-90$

BINOMIOS AL CUBO

a) $(x+1)^3 = x^3 + 3x^2 1 + 3x1^2 + 1^3$
$x^3 + 3x^2 + 3x + 1$

b) $(m+6)^3 = m^3 + 3m^2 6 + 3m6^2 + 6^3$
$m^3 + 18m^2 + 108m + 216$

c) $(x-2)^3 = x^3 - 3x^2 2 + 3x2^2 - 2^3$
$x^3 - 6x^2 + 12x - 8$

d) $(x+3)^3 = x^3 + 3x^2 3 + 3x3^2 + 3^3$
$x^3 + 9x^2 + 27x + 27$

e) $(10-m)^3$ $10^3 - 3 10^2 m + 3 \cdot 10 m^2 - m^3$
$1000 - 300m + 30m^2 - m^3$

f) $(n+7)^3 = n^3 - 3n^2 7 + 3n7^2 - 7^3$
$n^3 - 21n^2 + 147n - 343$

g) $(3x-4y)^3$ $(3x)^3 + 3(3x)^2(4y) + 3(3x)(4y)^2 + (4y)^3$
$27x^3 + 3(9x^2)(4y) + 3(3x)(16y^2) + 64y^3$
$27x^3 + 108x^2y + 144xy^2 + 64y^3$

h) $(5m^2 + 2n^5)^3 = (5m^2)^3 + 3(5m^2)^2(2n^5) + 3(5m^2)(2n^5)^2 + (2n^5)^3$
$125m^6 + 3(25m^4)(2n^5) + 3(5m^2)(4n^{10}) + 8n^{15}$
$125m^6 + 150m^4n^5 + 60m^2n^{10} + 8n^{15}$

i) $(3x^3y - 2z^4)^3$ $(3x^3y)^3 - 3(3x^3y)^2(2z^4) + 3(3x^3y)(2z^4)^2 - (2z^4)^3$
$27x^9y^3 - 3(9x^6y^2)(2z^4) + 3(3x^3y)(4z^8) - 8z^{12}$
$27x^9y^3 - 54x^6y^2z^4 + 36x^3yz^8 - 8z^{12}$

FACTORIZACION CON FACTOR COMÚN

(a) $x^2+x = x(x+1)$ (b) $x^3y^2-2x^3y = 2x^3y(y-1)$

(c) $k^4+k^3-k^2 = k^2(k^2+k-1)$ (d) $25b^2+35b^4-45b^5 = 5b^2(5+7b^2-9b^3)$

(e) $18x^5y^4z^3+30x^4y^3z^5 = 3x^4y^3z^3(6xy+10z^2)$

(f) $4x^4-8x^3+12x^2 = 4x^2(x^2-2x+3)$

(g) $6x^2-6xy-6x = 6x(x-y)$

(h) $9x^2+6x+3 = 3x(3x+2)$

(i) $25x^7-10x^5+15x^3-5x^2 = 5x^2(5x^5-2x^3+3x-1)$

FACTORIZACION DIFERENCIAS DE CUADRADOS

(a) $x^2-1 = (x)^2-(1)^2 = (x-1)(x+1)$ (b) $x^2-49 = (x)^2-(7)^2 = (x-7)(x+7)$

(c) $x^4-y^4 = (x^2)^2-(y^2)^2 = (x^2-y^2)(x^2+y^2)$ (d) $81-x^2 = (9)^2-(x)^2 = (9-x)(9+x)$

(e) $9x^2-25y^2 = (3x)^2-(5y)^2 = (3x-5y)(3x+5y)$

(f) $16x^2-100 = (4x)^2-(10)^2 = (4x-10)(4x+10)$

(g) $36x^2-1 = (6x)^2-(1)^2 = (6x-1)(6x+1)$

(h) $4x^2-9y^2z^2 = (2x)^2-(3yz)^2 = (2x-3yz)(2x+3yz)$

(i) $x^4-64 = (x^2)^2-(8) = (x^2-8)(x^2+8)$

FACTORIZACION TRINOMIOS CUADRADOS PERFECTOS

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

(b) $16x^2+24x+9 = 2(4x)(3) = 24x = (4x+3)^2$

(c) $9x^2-30x+25 = 2(3x)(5) = 30x = (3x-5)^2$

(d) $4x^2-20xy+25y^2 = 2(2x)(5y) = 20xy = (2x-5y)^2$

(e) $36+121c^2-132c = 2(6)(11c) = 132c = (6-11c)^2$

(f) $x^2+12x+36 = 2(x)(6) = 12x = (x+6)^2$

(g) $c^2-8c+16 = 2(c)(4) = 8c = (c-4)^2$

(h) $9x^2+6xy+y^2 = 2(3x)(y) = 6xy = (3x+y)^2$

(i) $100k^4-60k^2m+9m^2 = 2(10k^2)(3m) = 60k^2m = (10k^2-3m)^2$

FACTORIZACION FORMA x^2+bx+c

(a) $m^2-11m+30 =$

m	-6	$-6m$
m	-5	$-5m$
m^2	-11	$-11m$

$= (m-6)(m-5)$

(b) $x^2+7x+12 =$

x	3	$3x$
x	4	$4x$
x^2	7	$7x$

$= (x+4)(x+3)$

(c) $c^2-16c-36 =$

c	
c	

(d) $x^2+10x+24 =$

x	6	$6x$
x	4	$4x$
x^2	24	$10x$

$= (x+6)(x+4)$

(e) $y^2-15y+56 =$

y	-7	$-7y$
y	-8	$-8y$
y^2	56	$-15y$

$= (y-8)(y-7)$

(f) $c^2+c+132$

(g) x^2+7x+6

x	1	$1x$
x	6	$6x$
x^2	6	$7x$

$= (x+1)(x+6)$

(h) $K^2-9K+20$

K	-5	$-5K$
K	-4	$-4K$
K^2	$+20$	$-9K$

$(K-5)(K-4)$

(i) $x^2-8x-1008$

FACTORIZACION FORMA ax^2+bx+c

(a) $4n^2+15n+9$

$1n$	3	$3n$
$4n$	3	$12n$
$4n^2$	9	$15n$

$= (n+3)(4n+3)$

(b) $20x^2+13x+2$

$5x$	2	$5x$
$4x$	1	$8x$
$20x^2$	2	$13x$

$= (5x+2)(4x+1)$

(c) $15m^2-8m-12$

$3m$	-2	$18m$
$5m$	$+6$	$-10m$
$15m^2$	-12	$8m$

$= (3m-2)(5m+6)$

(d) $5K^2+13K-6$

$5K$	-2	$+15$
$1K$	$+3$	-2
$5K^2$	-6	13

$= (5K-2)(1K+3)$

(e) $2y^2+5y+2$

$2y$	1	$4y$
$1y$	2	$1y$
$2y^2$	2	5

$= (2y+1)(1y+2)$

(f) $2x^2+3x-2$

$1x \times 2 \quad -1 = (1x+2)(2x-1)$

$2x \quad -1 \quad +4$

$2x^2 \quad -2 \quad +3$

RECUPERADO 23 02 2019 https://www.youtube.com/watch?v=JC8jMC2c87g

RECUPERADO 23 02 2019 https://www.youtube.com/watch?v=uG1Bune1YUk

UNADM, RECUPERADO 23 02 2019 MAD_U2_Contenido https://unadmexico.blackboard.com/webapps/blackboard/content/listContent.jsp?course_id=_60521_1&content_id=_1953082_1&mode=reset