1. Ejercicios para practicar

Nombre:

Realiza las siguientes operaciones

Ejercicio 1: Realiza las siguientes sumas de polinomios:

[1] $x^4 - x^2 + -2x^5 - 3x^4 - 4x^3 + -2x^6 + 4x^4 - 4x$

[2] $2x^4 - x^3 + 2x + x^6 + 7x^5 + -3x^6 + 4x^5 + x$

[3] $2x^6 + x^3 + 3x^5 - x^3 - 3x + -3x^6 - 3x^5 - 2x^3$

[4] $2x^6 + 6x^3 + -4x^6 + 4x^5 + 2x^4 + x^6 + 3x^2$

[5] $5x^5 - 4x^4 + -6x^6 + x^4 + -4x^6 - 2x^5 + x^4$

[6] $4x^5 + 3x^3 + x^3 + 2x^2 + 2x + 2x^6 + 3x^5$

[7] $4x^6 + 2x^2 + 4x^5 + 3x + -3x^6 - x^3 + 4x$

[8] $x^5 - 3x^3 - 4x^2 + 2x^2 + 6x + 3x^3 + 2x^2$

[9] $x^4 - 8x + -2x^6 + -3x^6$

[10] $x^6 - 2x^3 - x + -2x^6 + 3x^4 + x^3 + 3x^6 + 3x^3$

Ejercicio 2: Realiza las siguientes sumas de polinomios:

[1] $0 + 0 + 0$

[2] $4x^2y + xy + -5xy^2 - 4xy + (-8x^2y + 2xy^2)$

[3] $-6xy^2 + (-8xy^2) + (-4xy^2 + 20xy)$

[4] $30x^2y^2 + -18x^2y^2 + 18x^2y + 12xy + -3x^2y^2 + 6x^2y + 12xy^2$

[5] $16x^2y + 16xy^2 - 64xy + -60x^2y - 16xy^2 + 16x^2y + 16xy^2$

[6] $15x^2y^2 + 50x^2y - 10xy + -15x^2y^2 - 100xy + -5xy^2$

[7] $180x^2y^2 - 36xy + 144x^2y^2 + 12xy^2 + 24xy + -24x^2y^2 + 84xy$

[8] $147x^2y^2 - 42x^2y + -98x^2y^2 + 28x^2y - 196xy + 49x^2y^2 + 217x^2y$

[9] $-64xy^2 + 184xy + (-8x^2y^2 + 176xy^2) + (-32x^2y^2 - 32x^2y)$

[10] $324x^2y - 9xy^2 - 81xy + 207xy + -288x^2y + 81xy$

Ejerciio 3 Realiza las siguientes sumas y restas de polinomios:

[1] $0 - (0) + (0)$

[2] $-x^2y^2 - 3xy + xy^2 - 3xy - (4x^2y^2 + xy^2)$

[3] $-8x^2y + 2xy^2 + 6x^2y + 12xy^2 - 8xy - (12x^2y)$

[4] $-18x^2y - 15xy^2 - (-12x^2y^2 - 9x^2y - 9xy) + (-12x^2y - 12xy^2)$

[5] $-32x^2y^2 + 4xy^2 - 12xy + -64x^2y^2 - 4xy - (-16x^2y^2 - 4x^2y + 48xy)$

[6] $-5x^2y^2 + 10xy^2 + -10x^2y + 15xy^2 - (-80x^2y^2 - 5x^2y)$

[7] $102x^2y + 12xy - (-36x^2y^2 + 72x^2y + 18xy^2) + (6x^2y^2 + 144xy^2 + 6xy)$

[8] $-7x^2y^2 + 28x^2y + 49xy^2 + -140x^2y - 196xy - (196x^2y^2 - 49x^2y)$

[9] $-40x^2y^2 + 32xy^2 + 480xy - (-240x^2y)$

[10] $-243x^2y + 324xy^2 + 9xy - (-162x^2y^2 + 18x^2y - 36xy) + (315x^2y^2 + 27xy^2)$

Ejercicio 3: Realiza las siguientes multiplicaciones de monomios:

[1] $(0) \cdot (0)$

[2] $(-bx^2yz) \cdot (3\,bx^3y^3z)$

[3] $(-24\,b^3x^2yz^2) \cdot (-2\,b^3xy^2z)$

[4] $(9\,bxy^3z) \cdot (9\,bx^3yz^2)$

[5] $(32\,bx^2yz^2) \cdot (32\,bx^2y^3z^3)$

[6] $(50\,b^3x^3y^2z) \cdot (-100\,bx^2y^2z^2)$

[7] $(432\,b^2xy^3z) \cdot (-864\,b^2x^2yz^2)$

[8] $(-147\,b^3x^3y^3z) \cdot (98\,b^3xyz^3)$

[9] $(512\,b^3x^3y^3z^2) \cdot (-8\,bxy^3z^2)$

[10] $(2916\,b^2x^3yz) \cdot (-81\,b^3x^2y^2z^2)$

Ejercicio 4: Realiza las siguientes multiplicaciones de polinomios:

[1] $(-x) \cdot (-3\,x^2 - 4\,x)$

[2] $(-2\,x) \cdot (3\,x)$

[3] $(2\,x^2) \cdot (-x^2 - x)$

[4] $(4\,x^2) \cdot (7\,x^2 + 3\,x)$

[5] $(x^2) \cdot (6\,x^2 + 2\,x)$

[6] $(-2\,x) \cdot (2\,x^2 + x)$

[7] $(-2\,x) \cdot (-6\,x^2 - 2\,x)$

[8] $(4\,x^2) \cdot (-x^2 + 2\,x)$

[9] $(-4\,x^2) \cdot (7\,x^2 - x)$

[10] $(-x) \cdot (-x^2 - 3\,x)$

Ejercicio 5: Realiza las siguientes multiplicaciones de polinomios:

[1] $(-x^2 - 4\,x) \cdot (-3\,x^2 + x)$

[2] $(4\,x^2 - x) \cdot (4\,x^2 + x)$

[3] $(-4\,x^2) \cdot (9\,x)$

[4] $(x^2 + 2\,x) \cdot (-2\,x^2 + 4\,x)$

[5] $(3\,x^2 - 2\,x) \cdot (-2\,x^2 + 7\,x)$

[6] $(-2\,x^2 + 2\,x) \cdot (-6\,x^2 + 3\,x)$

[7] $(-5\,x) \cdot (-3\,x^2 - x)$

[8] $(x^2 - 4\,x) \cdot (3\,x^2 + 2\,x)$

[9] $(2\,x^2 + 3\,x) \cdot (3\,x)$

[10] $(-2\,x^2) \cdot (2\,x^2 - 5\,x)$

[11] $(0) \cdot (-7\,x^2 + 4\,x)$

[12] $(-3\,x^2 - 2\,x) \cdot (4\,x^2 - x)$

[13] $(x) \cdot (-4\,x^2 + 3\,x)$

[14] $(x^2 - 3\,x) \cdot (6\,x^2 - 4\,x)$

[15] $(5\,x^2) \cdot (x^2 + 3\,x)$

Ejercicio 6: Realiza las siguientes multiplicaciones de polinomios:

[1] $(2\,x^3 - 3\,x^2) \cdot (-3\,x^3)$

[2] $(-x^2 - 4\,x) \cdot (-5\,x^3 - 3\,x)$

[3] $(-3\,x^2) \cdot (-8\,x^2 + 4\,x)$

[4] $(2\,x^3 - 3\,x^2 + 2\,x) \cdot (-x^3 - 4\,x)$

[5] $(-4\,x^3 - 4\,x) \cdot (10\,x^3 + 2\,x)$

[6] $(4\,x^3 - 4\,x) \cdot (-2\,x^3 - x)$

[7] $(-2\,x^3 + 7\,x^2) \cdot (0)$

[8] $(4\,x^3 - 2\,x) \cdot (3\,x^3 + 2\,x^2)$

[9] $(-2\,x^3 - 3\,x^2) \cdot (8\,x^3 - 2\,x^2 - x)$

[10] $(-2\,x^2 - 3\,x) \cdot (6\,x^3 - x)$

[11] $(-3\,x^2 - 3\,x) \cdot (-3\,x^3 - 4\,x^2 - 6\,x)$

[12] $(2\,x^2) \cdot (-2\,x^3 - 3\,x^2)$

[13] $(-2\,x^3 + 2\,x^2 - x) \cdot (-4\,x^3 - 3\,x^2)$

[14] $(0) \cdot (-3\,x^3 + 3\,x^2)$

[15] $(3\,x^3) \cdot (6\,x^2 + 4\,x)$

[16] $(2\,x^3 - 2\,x^2 - x) \cdot (-3\,x^3 - 2\,x^2)$

[17] $(x^3 + 3\,x^2) \cdot (-x^3 + 7\,x^2)$

[18] $(-x^3 + x) \cdot (-7\,x^3 + 2\,x^2)$

[19] $(-2\,x^3 - 3\,x) \cdot (4\,x^3 + 4\,x^2 - 4\,x)$

[20] $(3\,x^2) \cdot (10\,x^2 + 4\,x)$

Ejercicio 7: Realiza las siguientes multiplicaciones de polinomios:

[1] $(-2\,x^2y + xy^2) \cdot (-3\,x^2y^2 + 2\,xy^2 - 4\,xy)$

[2] $(-xy^2 - 2\,xy) \cdot (-x^2y^2 + 2\,x^2y + 2\,xy)$

[3] $(4\,xy^2 + 2\,xy) \cdot (-8\,xy)$

[4] $(-4\,x^2y^2 - 4\,xy^2) \cdot (-4\,x^2y^2 + 4\,x^2y + 4\,xy)$

[5] $(-3\,x^2y) \cdot (-4\,x^2y^2 + xy)$

[6] $(2\,x^2y^2 + 2\,x^2y) \cdot (-5\,x^2y - 4\,xy)$

[7] $(-2\,x^2y^2 + 4\,xy) \cdot (x^2y^2 + 2\,x^2y)$