1. Ejercicios para practicar

Nombre:

Realiza las siguientes operaciones

Ejercicio 1: Realiza las siguientes sumas de polinomios:

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

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

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

[4] $-4x^6 + 3x^2 - 4x + (-3x^6 - x^2 + 2x) + (-3x^4 + 2x^2)$

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

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

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

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

[9] $3x^6 + 2x^4 - 3x + -x^5 + 3x^2 + 6x^4 - 3x$

[10] $2x^5 + x^2 + -x^5 + (-x^5 - 3x)$

Ejercicio 2: Realiza las siguientes sumas de polinomios:

[1] $0 + 0 + 0$

[2] $5x^2y^2 + 2xy^2 + -2x^2y + xy^2 + -4x^2y^2 + x^2y - 3xy^2$

[3] $12x^2y^2 - 12x^2y + 2xy + -2x^2y^2 + 2x^2y + 8xy + (-18x^2y - 8xy^2)$

[4] $18x^2y^2 - 39x^2y + -36x^2y^2 - 6x^2y + -18x^2y^2 + 9xy^2$

[5] $12x^2y^2 - 48xy^2 + 64xy + -16x^2y^2 + 8x^2y - 16xy + (-16xy)$

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

[7] $12x^2y + 72xy^2 - 18xy + -108x^2y + 12xy^2 - 36xy + 84x^2y + 12xy$

[8] $168x^2y^2 - 21xy + 147x^2y^2 - 203x^2y + -196x^2y - 14xy^2 - 28xy$

[9] $128x^2y - 256xy^2 - 192xy + -168x^2y^2 + 128xy^2 + -176x^2y^2 + 64xy^2$

[10] $243xy^2 + 243xy + -36x^2y + 18xy^2 + 9x^2y^2 + 243x^2y - 18xy$

Ejerciio 3 Realiza las siguientes sumas y restas de polinomios:

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

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

[3] $-8x^2y + -4xy^2 - (24x^2y)$

[4] $9x^2y + 6xy - (-3xy^2 - 36xy) + (6xy^2 - 9xy)$

[5] $-4x^2y^2 + 16xy^2 + -112x^2y^2 + 64xy - (-48x^2y - 96xy^2)$

[6] $-125x^2y + 25xy^2 + 65x^2y - 75xy - (-15x^2y^2)$

[7] $18x^2y^2 - 132x^2y - (-12xy) + (-108x^2y - 162xy)$

[8] $-7xy^2 + 49xy + 7x^2y^2 + 35x^2y - (196xy^2 - 70xy)$

[9] $-8x^2y^2 - 8x^2y - 8xy^2 + 8x^2y + 32xy^2 - (-192x^2y^2 + 40xy)$

[10] $81x^2y^2 + 243x^2y + 9xy^2 - (324x^2y^2 + 81x^2y - 18xy) + (-81x^2y - 81xy^2 + 36xy)$

Ejercicio 3: Realiza las siguientes multiplicaciones de monomios:

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

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

[3] $(-16\,bxy^3z) \cdot (6\,bx^3yz^3)$

[4] $(-9\,bx^2y^2z) \cdot (-12\,b^2xy^3z^2)$

[5] $(64\,b^3xy^2z^3) \cdot (-64\,b^3xy^2z^2)$

[6] $(500\,b^2x^2y^2z) \cdot (-75\,b^2x^2y^2z^2)$

[7] $(-24\,b^3xyz^2) \cdot (144\,bx^2yz)$

[8] $(-196\,bx^3yz) \cdot (14\,bxyz^2)$

[9] $(-2048\,bxy^3z^3) \cdot (16\,b^3xy^2z^2)$

[10] $(-18\,b^3x^2yz^3) \cdot (18\,b^3xyz^2)$

Ejercicio 4: Realiza las siguientes multiplicaciones de polinomios:

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

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

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

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

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

[6] $(-3\,x^2) \cdot (5\,x^2 - 2\,x)$

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

[8] $(-2\,x) \cdot (5\,x^2 + 4\,x)$

[9] $(-4\,x^2) \cdot (-11\,x^2 + 3\,x)$

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

Ejercicio 5: Realiza las siguientes multiplicaciones de polinomios:

[1] $(5\,x) \cdot (-7\,x^2 - 2\,x)$

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

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

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

[5] $(2\,x^2 + 3\,x) \cdot (-6\,x^2 - 2\,x)$

[6] $(0) \cdot (6\,x)$

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

[8] $(3\,x^2 + 3\,x) \cdot (-x^2 - 5\,x)$

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

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

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

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

[13] $(-7\,x^2) \cdot (-10\,x)$

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

[15] $(-5\,x^2) \cdot (-3\,x^2 + 6\,x)$

Ejercicio 6: Realiza las siguientes multiplicaciones de polinomios:

[1] $(-6\,x^2 + 2\,x) \cdot (-5\,x^2 - 4\,x)$

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

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

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

[5] $(2\,x^3 - 2\,x) \cdot (-x^2 - 11\,x)$

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

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

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

[9] $(2\,x^3 - 2\,x) \cdot (5\,x^3 + 3\,x^2 - 3\,x)$

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

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

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

[13] $(7\,x^3 - 3\,x^2) \cdot (-x^3 - 5\,x)$

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

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

[16] $(2\,x^3 + 2\,x^2 - x) \cdot (-4\,x^3 - 2\,x^2)$

[17] $(3\,x^3) \cdot (-5\,x^3 - x)$

[18] $(-3\,x^3 - 4\,x^2) \cdot (4\,x^2 - 2\,x)$

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

[20] $(x^3) \cdot (x)$

Ejercicio 7: Realiza las siguientes multiplicaciones de polinomios:

[1] $(6\,x^2y) \cdot (6\,x^2y^2 + 4\,xy)$

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

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

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

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

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

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