Operazioni con i polinomi

	somma algebrica di polinomi	
1	$(3 - a + a^2) + (3 + 2a - 2a^2)$	$-a^2 + a + 6$
2	$(3 - a + a^2) - (3 + 2a - 2a^2)$	$-3a + 3a^2$
3	$-(3 - a + a^2) + (3 + 2a - 2a^2)$	$3a - 3a^2$
4	$-(3 - a + a^2) - (3 + 2a - 2a^2)$	$-6 - a + a^2$
5	$\left(2x^3 - \dfrac{8}{3}x^2 + \dfrac{1}{4}x + 1\right) - \left(\dfrac{1}{5}x^3 - \dfrac{5}{2}x^2 + x + 1\right)$	$\dfrac{9}{5}x^3 - \dfrac{1}{6}x^2 - \dfrac{3}{4}x$
6	$(3x^2b^3 + 7x^2 - b^2) - (+8x^2 - 4x^2b^3 + b^2)$	$7x^2b^3 - x^2 - 2b^2$
7	$\left(\dfrac{3}{4}mn - n^3 + \dfrac{1}{4}an^3\right) - \left(\dfrac{1}{4}mn - \dfrac{1}{2}an^3\right)$	$\dfrac{1}{2}mn - n^3 + \dfrac{3}{4}an^3$
8	$\left(\dfrac{1}{3}a^2 + a - 5\right) + \left(\dfrac{2}{3}a^2 - a\right) - (a^2 - 3a + 1)$	$3a - 6$
9	$[2x - (a - b)] + (3a + b) - (2a + 3b)$	$2x - b$
10	$-\dfrac{2}{3}a - \left\{-\left[\dfrac{1}{2}b - \left(2a - \dfrac{1}{6}\right)\right] + b - \dfrac{1}{3}a\right\}$	$\dfrac{1}{6} - \dfrac{7}{3}a - \dfrac{1}{2}b$
11	$(0,\bar{6}m^2 - m) - (m^2 - 3m + 1) - \left(\dfrac{1}{3}m^2 + m - 5\right)$	$4 + m - \dfrac{2}{3}m^2$
12	$(x^2 - x + 1) - (3x^2 + 2) - (5 - 2x^2)$	$-x - 6$
13	$[-(a^2b^2c + 3ab^2c) + (7ab^2c + 8a^2b^3c) + a^2b^2c] - 3a^2b^3c + -(-ab^2c + 5a^2bc)$	$5ab^2c - 5a^2bc + 5a^2b^3c$
	prodotto di un polinomio per un monomio	
14	$(2x^2 + 3ax - b^2) \cdot (-4ab)$	$-8abx^2 - 12a^2bx + 4ab^3$
15	$(a^2 - 3x + 2) \cdot 3x$	$3a^2x - 9x^2 + 6x$

16	$\frac{1}{2}b^2x^3 \cdot (-2x + 4b - 6x^2 + 8b^2)$	$-b^2x^4 + 2b^3x^3 - 3b^2x^5 + 4b^4x^3$
17	$-0,5xy \cdot (xy + 4x^2y + 4xy^2 - 0,\bar{6}x^2y^2)$	$-\frac{1}{2}x^2y^2 - 2x^3y^2 - 2x^2y^3 + \frac{1}{3}x^3y^3$
18	$3mn \cdot (0,\bar{6}m^2n + 0,2mn - m^2n^2)$	$2m^3n^2 + \frac{3}{5}m^2n^2 - 3m^3n^3$
19	$\left(-\frac{2}{3}m^2n + 0,\bar{3}m^2n^2 - \frac{2}{3}mn^2t^2\right) \cdot (3m^2n^2t^3)$	$-2m^4n^3t^3 + m^4n^4t^3 - 2m^3n^4t^5$
20	$\left(-3xy + 4xy^2 - \frac{2}{3}x^2y\right) \cdot \left(-\frac{1}{2}xy\right)$	$\frac{3}{2}x^2y^2 - 2x^2y^3 + \frac{1}{3}x^3y^2$
21	$2b^2x^3 \cdot (0,5b + 0,25x - 0,1\bar{6}x^2 - 0,125b^2)$	$b^3x^3 + \frac{1}{2}b^2x^4 - \frac{1}{3}b^2x^5 - \frac{1}{4}b^4x^3$
22	$7a^2b^2\left(-\frac{4}{7}b + \frac{5}{7}a\right) + (-a^2b)(5ab - 4b^2 + 8a^2)$	$-8a^4b$
23	$\left(mn + 5n^2 - \frac{1}{3}mn^3\right)(3m^2n) - \left(\frac{1}{5}m - n - mn\right) \cdot 15m^2n^2$	$15m^3n^3 - m^3n^4 + 30m^2n^3$
24	$a^2 \cdot (2a - 3b) \cdot 5b - \frac{1}{2} \cdot (ab - 4b^2) \cdot a^2 - \left(-\frac{1}{2}a^3b\right)$	$10a^3b - 13a^2b^2$
25	$\frac{x^2}{2}(x - y + 1) - \frac{2}{3}x(-x^2 + x) - x^2(y - 3) - \frac{23}{6}x^2$	$\frac{7}{6}x^3 - x^2 - \frac{3}{2}x^2y$
26	$xy(x^2 - y^3) - (2xy^2 + x)x^2y + (x^2 - 2y)\left(-\frac{xy^3}{2}\right)$	$-\frac{5}{2}x^3y^3$
27	$\left[2(x^2 - 3xy) + \left(\frac{1}{2}x - 3y\right) \cdot 2x - (3x - 6y) \cdot \frac{1}{3}x\right] \cdot \frac{1}{2}x$	$x^3 - 5x^2y$
28	$\left[\frac{1}{3}a^2\left(\frac{4}{3}a - b\right) - \frac{1}{4}a(a^2 - 2ab)\right]\left(-\frac{3}{4}ab\right) - b^2\left(\frac{1}{24}a^3 - a^2b\right) + \frac{1}{3}ab\left(a^3 + \frac{1}{2}a^2b\right)$	$\frac{3}{16}a^4b + a^2b^3$
29	$x^2 - xy(y - z) - \frac{x}{2}(yz + x - 6) - 3x - \frac{1}{2}xyz$	$\frac{1}{2}x^2 - xy^2$

Operazioni con i polinomi

30	$(2 + x)\left\{-\left[2xy\left(\dfrac{1}{2}x - \dfrac{3}{4}y\right)\right] + x^2y\right\}^2 - 9x^2y^4\left(\dfrac{1}{4}x + \dfrac{1}{2}\right)$	0
31	$a\left\{a^3 - \left[(-4a^2 + 5b^2 + 2ab)\cdot(-a) + \left(\dfrac{5}{2}b + a\right)\cdot 2ab\right]\right\}$	$-3a^4$
32	$\left\{x^2 - \left[3y\left(x - \dfrac{y}{9}\right) - \dfrac{2}{3}x\left(y - \dfrac{3}{4}x\right)\right]\right\}\cdot\left(-\dfrac{2}{3}x\right) - \dfrac{1}{9}x(-2xy + 2y^2 - 3x^2)$	$\dfrac{16}{9}x^2y - \dfrac{4}{9}xy^2$
33	$a^2\left(a + \dfrac{1}{3}\right) + \left(-\dfrac{3}{5}a - \dfrac{3}{2}a^2 + \dfrac{1}{5}a^3\right)\left(\dfrac{5}{9}a\right) + \dfrac{1}{3}\left(a + \dfrac{1}{9}a^4\right) - \dfrac{4}{27}a^4 - 2a\left(a^2 + \dfrac{1}{6}\right)$	$-\dfrac{11}{6}a^3$
34	$\left[(-5a^2 + 2b^2)ab + \left(\dfrac{5}{2}a^2b - b^3\right)\cdot(2a)\right]^0$	*perde di significato perché?*
35	$(y - x - 2)(-y) + 2(-2y) + (x - 2y + 3)\left(\dfrac{1}{2}x\right) + 2y(1 + y) - \dfrac{1}{4}x(2 + 2x)$	$x + y^2$
36	$(x^2 + 1)\cdot 2x^2 - 3x^2\cdot(x^2 - x + 1) - (-x^3 + x^2 - x)\cdot x$	$2x^3$
37	$x^2y^2 + \left[xy\left(\dfrac{x}{2} + \dfrac{3}{2}y + 1\right) - x\left(xy + \dfrac{3}{2}y^2 + y\right)\right]^2 xy - \dfrac{1}{4}x^5y^3$	x^2y^2

prodotto di polinomi

38	$(2 - a)(a + 3)$	$-a^2 - a + 6$
39	$(x + 3)(x - 4)$	$x^2 - x - 12$
40	$(2m - 1)(m - 2)$	$2m^2 - 5m + 2$
41	$\left(a + \dfrac{1}{2}\right)(2b - 6)$	$2ab - 6a + b - 3$
42	$(2a^2 + b^3)(a^3 + 2b^2)$	$2a^5 + 4a^2b^2 + a^3b^3 + 2b^5$
43	$\left(x - \dfrac{1}{3}\right)(3y - 6)$	$3xy - 6x - y + 2$

44	$(a - 2)(a + 2)$	$a^2 - 4$
45	$(a + b + c)(a + b - c)$	$a^2 + 2ab + b^2 - c^2$
46	$(x - y)(x^2 + xy + y^2)$	$x^3 - y^3$
47	$(a + b)(a^2 - ab + b^2)$	$a^3 + b^3$
48	$(5a - b + 3c)(5a + b - 3c)$	$25a^2 - b^2 + 6bc - 9c^2$
49	$(x + 1)(x - 2)(x + 3)$	$x^3 + 2x^2 - 5x - 6$
50	$(a + b)(a^2 - ab + b^2)(a^3 - b^3)$	$a^6 - b^6$
51	$(1 - a)(1 + a + a^2)(1 + a^3 + a^6)$	$1 - a^9$
52	$(a - 2)(a + 2)$	$a^2 - 4$
53	$(m + 3)(m + 2)(m + 1) - (m - 3)(m - 2)(m - 1) - 6(m^2 + 2)$	$6m^2$
54	$(3b - a^2)(a^3 - 4b^3) - (3b - a^2)(a^3 + 2b^3) - 6b(b^3 + a^2b^2)$	$-24b^4$
55	$3x^2(3 + x^2) - (x^2 - 1)(x^2 - 2) - 2[(x^2 + 1)(x^2 + 2) - 3]$	$6x^2$
56	$(1 + x - x^3)(5 + x^3) - (1 - x^2)(1 + x + x^2)(1 - x + x^2) - 4(1 - x^3) - 5x(1 - x^3)$	$6x^4$
57	$2(3x + 1)(2x - 1) - 2(6x + 1)(x + 2) + (-3x)^2 - 5(4x + 1)$	$9x^2 - 48x - 11$

58	$(3 + m)(1 - m)(m + 2) + (m^2 - 2m + 1)(m + 3)$	$-3m^2 - 6m + 9$
59	$5a(a^2x) - ax^2(-14a - 9x) + (0,\overline{3}a + 0,6x)(a + x)(-15ax)$	0
60	$(a + 2)\left\{\left[6a^2b - 3ab\left(2a - \frac{1}{3}b\right) + b^2\right]\right\} \cdot b^2 - 3ab^3\left(\frac{1}{3}ab + b\right)$	$2b^4$
61	$\left[\left(\frac{3}{2}ab^2 - 0,2a^2b\right)\left(2a + \frac{20}{3}b\right) - (10b^2 - 0,4a^2)ab + \frac{4}{3}a^2b^2\right]^2$	$9a^4b^4$

divisione di un polinomio per un monomio

62	$(12a^4y^5 - 4a^3y^2 + 8ay^4) : (-4ay^2)$	$-3a^3y^3 + a^2 - 2y^2$
63	$(8x^2y^3 - 6xy^2 + 4xy) : (-2xy)$	$-4xy^2 + 3y - 2$
64	$\left(\frac{6}{5}m^2 - \frac{7}{3}m^3 + 4m^5 - \frac{1}{2}m^6\right) : \left(\frac{3}{2}m^2\right)$	$-\frac{1}{3}m^4 + \frac{8}{3}m^3 - \frac{14}{9}m \; \frac{4}{5}$
65	$\left(\frac{3}{2}p^6q - 6p^5q - 4p^3pq^4 + \frac{5}{6}p^5q^2 - \frac{3}{8}p^3q^3\right) : \left(\frac{1}{4}p^3q\right)$	$6p^3 - 24p^2 - 16pq^3 + \frac{10}{3}p^2q - \frac{3}{2}q^2$
66	$[(2x + z^2)(x^3z - z^2) : z + z^3] : x - 2x(x^3 + z) - z(x^2z - 2 - 2x)$	$2x^3 - 2x^4$
67	$\{(x + y)[(x + y) + (x - y)] - 2xy\} : [(-2)(-x)^2]$	-1
68	$[(1 - a)(1 + a + a^2)(1 + a^3) - 1] : (-a)^5$	a
69	$\left\{2a^4\left[b\left(\frac{1}{8}b + a\right) + 16a\left(\frac{1}{8}a - \frac{1}{16}b\right)\right] : a^2 + a^2\left(a^2 - \frac{1}{4}b^2\right)\right\} : (-5a^4)$	-1
70	$\left\{\left[\left(2m^2n^3 - \frac{1}{4}m^5\right)(-8m) + 2(1 + 2mn)(1 - 2mn + 4m^2n^2)\right] : 2\right\} : \frac{1}{2}$	$2m^6 + 2$

	esercizi di riepilogo	
71	$\left[2\left(3 + x + \dfrac{1}{2}y\right)(x + 3y - 4) - \left(y + \dfrac{14}{3}\right)3y + 2x(1 - x) - 4\right] : 7$	$xy - 4$
72	$\left[4(2a - b)\left(a - \dfrac{1}{3}b\right) + 2(b - 2a + 1)\left(2a - \dfrac{2}{3}b - 1\right) + 2\left(\dfrac{5}{3}b - 4a + 1\right)\right]^3 - 4$	-4
73	$(m^2 + n^2)\left[(1{,}5m - 0{,}\bar{6}n)(0{,}\bar{6}m + 1{,}5n) - 1{,}80\bar{5}mn\right] - (-m^2)^2$	$-n^4$
74	$\dfrac{a}{2}\left(\dfrac{a}{3} + \dfrac{b}{2}\right) - \dfrac{2}{3}b\left(\dfrac{a}{4} + \dfrac{3}{2}a\right) - \left(\dfrac{1}{3}a^2 - \dfrac{2}{3}b^2 - \dfrac{11}{6}ab\right) \cdot \dfrac{1}{2}$	$\dfrac{1}{3}b^2$
75	$\left\{\left[\left(\dfrac{1}{2}x + y\right)\left(\dfrac{y}{3} - x\right)2 + \dfrac{4}{3}xy\right]\left(\dfrac{2}{3}y^2 + x^2\right) + \left(\dfrac{5}{9}y^4 + x^4 + \dfrac{1}{3}x^3y\right)\right\} : 2(-y)^3$	$\dfrac{1}{9}x - \dfrac{1}{2}y$
76	$\left\{\left[\left(x + \dfrac{1}{2}y\right)\left(b + \dfrac{2}{3}a\right) - bx - \dfrac{1}{3}ay\right](ax - 2by)6 + 5by(ax + by)\right\} : \left(-\dfrac{1}{2}\right)^2$	$16a^2x^2 - 4b^2y^2$
77	$2\left(a^3 + \dfrac{1}{4}\right)\left(\dfrac{1}{16} - a^3\right) + \left[\left(a - \dfrac{1}{2}\right)\left(a^4 + \dfrac{1}{2}a^3 + \dfrac{1}{4}a^2\right)\left(a^3 + \dfrac{1}{8}\right)\right] : \left(\dfrac{1}{2}a^2\right)$	$-\dfrac{3}{8}a^3$
78	$\left[\left(-\dfrac{2}{3}ax\right)^2 + \dfrac{1}{2}ax\left(\dfrac{4}{3}a + \dfrac{5}{2}x\right) + a\left(\dfrac{2}{3}ax - \dfrac{5}{4}x^2\right)\right] : (-ax)$	$-\dfrac{4}{9}ax - \dfrac{4}{3}$
79	$[x(x - 2y) - 2x(y - 2z) + x^2](2y - 1) - (y - 1)(x - 3y + 2z) \cdot 2x$	$2x^2y - 2xy^2 + 4xyz - 2xy$
80	$\{[(m + 2)(m - 1) + 2](m^2 + m - 1) + m\}\left(-\dfrac{1}{2}m\right)^2 - \left(-\dfrac{1}{2}m^3\right)^2$	$\dfrac{1}{2}m^5$
81	$\left[\left(\dfrac{1}{2}x + \dfrac{2}{3}y^2\right)(6x - 18y^2) - 4\left(x^2 - \dfrac{39}{16}y^4\right) + \left(x + \dfrac{9}{2}y^2\right)\left(x + \dfrac{1}{2}y^2\right)\right] : xy$	0