Prodotti notevoli

PASSED

	somma per differenza	
1	$(3a-2b)(3a+2b)$	$9a^2-4b^2$
2	$\left(\frac{4}{3}ab^2-5c^3\right)\left(\frac{4}{3}ab^2+5c^3\right)$	$\frac{16}{9}a^2b^4-25c^6$
3	$\left(\frac{1}{2}x+\frac{7}{3}y^2\right)\left(\frac{1}{2}x-\frac{7}{3}y^2\right)$	$\frac{1}{4}x^2-\frac{49}{9}y^4$
4	$(3abc^2+3)(3abc^2-3)$	$9a^2b^2c^4-9$
5	$\left(\frac{2}{3}m-\frac{4}{5}n^2\right)\left(\frac{2}{3}m+\frac{4}{5}n^2\right)$	$\frac{4}{9}m^2-\frac{16}{25}n^4$
6	$\left(3xy^2+\frac{2}{5}x^2\right)\left(3xy^2-\frac{2}{5}x^2\right)$	$9x^2y^4-\frac{4}{25}x^4$
7	$\left(1-\frac{3}{4}a^2b\right)\left(1+\frac{3}{4}a^2b\right)$	$1-\frac{9}{16}a^4b^2$
8	$\left(x^2y^3-\frac{3}{8}m^2n\right)\left(x^2y^3+\frac{3}{8}m^2n\right)$	$x^4y^6-\frac{9}{64}m^4n^2$
9	$(x+2y)(x-2y)(x^2+4y^2)$	x^4-16y^4
10	$(a+3b)(a-3b)(a^2+9b^2)$	a^4-81b^4
	quadrato di binomio	
11	$(5a+2b)^2$	$25a^2+20ab+4b^2$
12	$(3xy^2-x^2)^2$	$9x^2y^4-6x^3y^2+x^4$
13	$\left(2a^2b-\frac{1}{2}ab^2\right)^2$	$4a^4b^2-2a^3b^3+\frac{1}{4}a^2b^4$
14	$\left(-\frac{2}{3}m^2-\frac{1}{2}mn^2\right)^2$	$\frac{4}{9}m^4+\frac{2}{3}m^3n^2+\frac{1}{4}m^2n^4$

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15	$\left(-a^2-\frac{7}{4}b^2\right)^2$	$a^4+\frac{7}{2}a^2b^2+\frac{49}{16}b^4$
16	$(-ax^2+3x)^2$	$a^2x^4-6ax^3+9x^2$
17	$(7x^2yz-y^2z)^2$	$49x^4y^2z^2-14x^2y^3z^2+y^4z^2$
18	$\left(\frac{3}{4}a^2b+\frac{1}{4}b^4c\right)^2$	$\frac{9}{16}a^4b^2+\frac{3}{8}a^2b^{\,5}c+\frac{1}{16}b^8c^2$
19	$(-x^m+3y^n)^2$	$x^{2m}-6x^my^n+9y^{2n}$
20	$(2a^{3x+1}-3b^{y-1})^2$	$4a^{6x+2}-12a^{3x+1}b^{y-1}+9b^{2y-2}$
	cubo di binomio	
21	$(2a+b^2)^3$	$8a^3+12a^2b^2+6ab^4+b^6$
22	$(3x-2)^3$	$27x^3-54x^2+36x-8$
23	$(x-2y)^3$	$x^3-6x^2y+12xy^2-8y^3$
24	$\left(-\frac{2}{3}x^2-xy\right)^3$	$-\frac{8}{27}x^6-\frac{4}{3}x^5y-2x^4y^2-x^3y^3$
25	$\left(\frac{1}{9}a^2b-\frac{1}{2}x^2\right)^3$	$\frac{1}{729}a^6b^3-\frac{1}{54}a^4b^2x^2+\frac{1}{12}a^2bx^4-\frac{1}{8}x^6$
26	$\left(1-\frac{2}{3}a^2bc\right)^3$	$1-2a^2bc+\frac{4}{3}a^4b^2c^2-\frac{8}{27}a^6b^3c^3$
27	$\left(\frac{1}{2}ab^3+\frac{4}{3}b^2c\right)^3$	$\frac{1}{8}a^3b^9+a^2b^8c+\frac{8}{3}ab^7c^2+\frac{64}{27}b^6c^3$
28	$\left(\frac{1}{3}mn^2-3ab^2\right)^3$	$\frac{1}{27}m^3n^6-ab^2m^2n^4+9a^2b^4mn^2-27a^3b^6$

29	$\left(\frac{1}{4}ax^2-\frac{2}{3}xb^2y\right)^3$	$\frac{1}{64}a^3x^6-\frac{1}{8}a^2b^2x^5y+\frac{1}{3}ab^4x^4y^2-\frac{8}{27}b^6x^3y^3$
30	$(a^m-2b^n)^3$	$a^{3m}-6a^{2m}b^n+12a^mb^{2n}-8b^{3n}$
	potenza di binomio	
31	$(x+2y)^4$	$x^4+8x^3y+24x^2y^2+32xy^3+16y^4$
32	$(2x+y)^5$	$32x^5+80x^4y+80x^3y^2+40x^2y^3+10xy^4+y^5$
33	$(2a-3b)^4$	$16a^4-96a^3b+216a^2b^2-216ab^3+81b^4$
34	$(1-2x^2)^6$	$1-12x^2+60x^4-160x^6+240x^8-192x^{10}+64x^{12}$
35	$(3a+b^2)^5$	$243a^5+405a^4b^2+270a^3b^4+90a^2b^6+15ab^8+b^{10}$
36	$(-x^2-2y)^6$	$x^{12}+12x^{10}y+60x^8y^2+160x^6y^3+240x^4y^4+192x^2y^5+64y^6$
37	$(-a^3+3)^4$	$a^{12}-12a^9+54a^6-108a^3+81$
38	$(ab+2c)^4$	$a^4b^4+8a^3b^3c+24a^2b^2c^2+32abc^3+16c^4$
39	$(a-2bc)^6$	$a^6-12a^5bc+60a^4b^2c^2-160a^3b^3c^3+240a^2b^4c^4+-192ab^5c^5++64b^6c^6$
40	$\left(\frac{1}{2}x+y^2\right)^5$	$\frac{1}{32}x^5+\frac{5}{16}x^4y^2+\frac{5}{4}x^3y^4+\frac{5}{2}x^2y^6+\frac{5}{2}xy^8+y^{10}$
	quadrato di trinomio	
41	$(a+b-2c)^2$	$a^2+b^2+4c^2+2ab-4ac-4bc$

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42	$(2a-b-3c)^2$	$4a^2+b^2+9c^2-4ab-12ac+6bc$
43	$(x^2-2x+1)^2$	$x^4-4x^3+6x^2-4x+1$
44	$\left(\frac{1}{2}m-2n+3q\right)^2$	$\frac{1}{4}m^2+4n^2+9q^2-2mn+3mq-12nq$
45	$\left(\frac{2}{3}a^2-3a+2\right)^2$	$\frac{4}{9}a^4-4a^3+\frac{35}{3}a^2-12a+4$
46	$(a^2-bc+2c)^2$	$a^4+b^2c^2+4c^2-2a^2bc+4a^2c-4bc^2$
47	$\left(2x-3y-\frac{1}{4}\right)^2$	$4x^2+9y^2+\frac{1}{16}-12xy-x+\frac{3}{2}y$
48	$(4a^2+3b^2-5c)^2$	$16a^4+9b^4+25c^2+24a^2b^2-40a^2c-30b^2c$
49	$\left(-\frac{2}{3}x^2-3xy-z\right)^2$	$\frac{4}{9}x^4+9x^2y^2+z^2+4x^3y+\frac{4}{3}x^2z+6xyz$
50	$(a^m+b^n-b^p)^2$	$a^{2m}+b^{2n}+b^{2p}+2a^mb^n-2a^mb^p-2b^{n+p}$
	esercizi di riepilogo	
51	$(x-2y+1)(x-2y-1)$	$x^2-4xy+4y^2-1$
52	$\left(\frac{1}{2}a-b^2+2c\right)\left(\frac{1}{2}a+b^2+2c\right)$	$\frac{1}{4}a^2+2ac+4c^2-b^4$
53	$\left(-\frac{9}{2}xy-\frac{1}{4}x^2y^2\right)^2$	$\frac{81}{4}x^2y^2+\frac{9}{4}x^3y^3+\frac{1}{16}x^4y^4$
54	$\left(\frac{3}{7}a^2b-\frac{7}{2}b^2c^2\right)^2$	$\frac{9}{49}a^4b^2-3a^2b^3c^2+\frac{49}{4}b^4c^4$
55	$\left(\frac{3}{2}x^2y-\frac{2}{3}xy^2\right)^3$	$\frac{27}{8}x^6y^3-\frac{9}{2}x^5y^4+2x^4y^5-\frac{8}{27}x^3y^6$

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Prodotti notevoli

56	$\left(\frac{7}{2}ab^2x-\frac{1}{3}xb\right)^3$	$\frac{343}{8}a^3b^6x^3-\frac{49}{4}a^2b^5x^3+\frac{7}{6}ab^4x^3-\frac{1}{27}b^3x^3$
57	$(3m-2n^2)^6$	$729m^6-2916m^5n^2+4860m^4n^4-4320m^3n^6+2160m^2n^8-576mn^{10}+64n^{12}$
58	$\left(\frac{1}{2}x+y^2\right)^4$	$\frac{1}{16}x^4+\frac{1}{2}x^3y^2+\frac{3}{2}x^2y^4+2xy^6+y^8$
59	$(2x^2y-xy^2-x)^2$	$4x^4y^2+x^2y^4+x^2-4x^3y^3-4x^3y+2x^2y^2$
60	$\left(\frac{2}{5}x-y^2+\frac{3}{2}xy\right)^2$	$\frac{4}{25}x^2+y^4+\frac{9}{4}x^2y^2-\frac{4}{5}xy^2+\frac{6}{5}x^2y-3xy^3$

espressioni con prodotti notevoli

61	$(2a-1)^2-(a+2)^2+(a+4)^2$	$4a^2+13$
62	$\left(a+\frac{1}{3}x\right)^2-\left(a-\frac{1}{2}x\right)\left(a+\frac{1}{2}x\right)+\frac{11}{36}x^2$	$\frac{2}{3}ax+\frac{2}{3}x^2$
63	$(2x-3)^3+2x(2x-5)^2-4(2x-1)^2(x-3)+15$	$52x-12x^2$
64	$\left(\frac{1}{3}x-y\right)^2\left(\frac{1}{3}x+y\right)-\left(\frac{1}{3}x+y\right)^3$	$-\frac{4}{9}x^2y-\frac{4}{3}xy^2$
65	$\frac{1}{3}(x+b)^2-\frac{4}{9}b^2+\left(\frac{1}{6}x+\frac{1}{3}b\right)\left(\frac{1}{3}b-\frac{1}{6}x\right)$	$\frac{2}{3}bx+\frac{11}{36}x^2$
66	$(x+y)^2(x-y)^2-x^3(x+2y)+[x^2-(x-y)^2](x+y)^2$	x^2y^2
67	$[(2-ab)^2-(ab-1)(ab+1)](5+4ab)-(5-4ab)(5+4ab)$	0
68	$7(4+a)(a-4)+2(a-2)(a-3)+5(a+1)^2$	$14a^2-95$
69	$(2x^2+y)^2-(2x^2+y)(2x^2-y)-4y(x)^2$	$2y^2$

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70	$(2x^2+y)(2x^2-y)+(2x^2+y)^2-(2x^2-y)^2+4x^2y:\left(-\frac{1}{2}\right)$	$4x^4-y^2$
71	$(a^2-3b^2)^2+\left(2a^2-\frac{1}{3}b^2\right)\left(2a^2+\frac{1}{3}b^2\right)-\left(\frac{4}{3}a^2-3b^2\right)^2$	$\frac{29}{9}a^4-\frac{1}{9}b^4+2a^2b^2$
72	$(x^3+y^3)(x^3-y^3)+(x+y)^3(x-y)^3-3x^2y^2(x+y)(y-x)+8y^7:4y$	$2x^6$
73	$a^2(a-3)(a+2)+(a^2-3a+2)^2-2a(a-1)^3+a(a^2+10)$	a^2+4
74	$(a+b-2)^2-(a+b+2)^2-4(a+b+2)+12(a+b)$	-8
75	$\left(a+\frac{1}{3}b\right)\left(\frac{1}{3}b-a\right)-\left(b-\frac{1}{2}a\right)^2-ab$	$-\frac{5}{4}a^2-\frac{8}{9}b^2$
76	$(1+a^2)^3-(1+a^3)^2-3a^2(1+a)(1-a)-2a^3(3a+1)$	$-4a^3$
77	$(x-y+z)(x-y-z)-(x+y+z)(x-y-z)+2y(x-y)$	2xy
78	$(x^2-x^4)(x^2+x^4)-(x^2-1)^2+[(x+1)(x-1)(x^2+1)+2]^2$	$2x^4+2x^2$
79	$\left(\frac{2}{5}a-b^2\right)\left(b^2+\frac{2}{5}a\right)-\left[\left(\frac{1}{2}a+\frac{2}{3}b\right)^3-\frac{8}{27}b^3-\frac{1}{6}ab(3a+4b)\right]:\frac{25}{32}a$	$-b^4$
80	$\left(\frac{4}{3}ab+3\right)\left(3-\frac{4}{3}ab\right)+a\left(\frac{4}{3}a+\frac{2}{3}b^2\right)^2-(4a+6)\left(\frac{4}{9}a^2+1-\frac{2}{3}a\right)+\frac{5}{9}ab^4$	$3+ab^4$
81	$[-9xy(3y^2+1)+(-x^2y-1)^2-(3x+9xy^2)(-3y)-(1+x^2y)^2]:x^2$	0

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