

## prodotto della somma di due monomi per la loro 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	$(a + 3b)(a - 3b)(a^2 + 9b^2)$	$a^4 - 81b^4$

## quadrati di binomi

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	$\left(-\frac{2}{3}m^2 - \frac{1}{2}mn^2\right)^2$	$\frac{4}{9}m^4 + \frac{2}{3}m^3n^2 + \frac{1}{4}m^2n^4$
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	$\left(\frac{3}{4}a^2b + \frac{1}{4}b^4c\right)^2$	$\frac{9}{16}a^4b^2 + \frac{3}{8}a^2b^5c + \frac{1}{16}b^8c^2$
19	$(-x^m + 3y^n)^2$	$x^{2m} - 6x^my^n + 9y^{2n}$

20	$(2a^{3x+1} - 3b^{y-1})^2$	$4a^{6x+2} - 12a^{3x+1}b^{y-1} + 9b^{2y-2}$
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## cubi di binomi

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	$(a^m - 2b^n)^3$	$a^{3m} - 6a^{2m}b^n + 12a^mb^{2n} - 8b^{3n}$

## potenze di binomi

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	$\left(\frac{1}{2}x + y^2\right)^5$	$\frac{1}{32}x^5 + \frac{5}{16}x^4y^2 + \frac{5}{4}x^3y^4 + \frac{5}{2}x^2y^6 + \frac{5}{2}xy^8 + y^{10}$

## quadrati di trinomi

41	$(a + b - 2c)^2$	$a^2 + 2ab - 4ac + b^2 - 4bc + 4c^2$
42	$(2a - b - 3c)^2$	$4a^2 - 4ab - 12ac + b^2 + 6bc + 9c^2$
43	$(x^2 - 2x + 1)^2$	$x^4 - 4x^3 + 6x^2 - 4x + 1$
44	$\left(\frac{1}{2}m - 2n + 3q\right)^2$	$\frac{1}{4}m^2 - 2mn + 3mq + 4n^2 - 12nq + 9q^2$
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	$(a^2 - bc + 2c)^2$	$a^4 - 2a^2bc + 4a^2c + b^2c^2 - 4bc^2 + 4c^2$
47	$\left(2x - 3y - \frac{1}{4}\right)^2$	$4x^2 - 12xy - x + 9y^2 + \frac{3}{2}y + \frac{1}{16}$
48	$(4a^2 + 3b^2 - 5c)^2$	$16a^4 + 24a^2b^2 - 40a^2c + 9b^4 - 30b^2c + 25c^2$
49	$\left(-\frac{2}{3}x^2 - 3xy - z\right)^2$	$\frac{4}{9}x^4 + 4x^3y + \frac{4}{3}x^2z + 9x^2y^2 + 6xyz + z^2$
50	$(a^m + b^n - b^p)^2$	$a^{2m} + 2a^m b^n - 2a^m b^p + b^{2n} - 2b^{n+p} + b^{2p}$

## 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	$\left(\frac{3}{2}x^2y - \frac{2}{3}xy^2\right)^3$	$\frac{27}{8}x^6y^3 - \frac{9}{2}x^5y^4 + 2x^4y^5 - \frac{8}{27}x^3y^6$
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	$(2x^2y - xy^2 - x)^2$	$4x^4y^2 - 4x^3y^3 - 4x^3y + x^2y^4 + 2x^2y^2 + x^2$
60	$\left(\frac{2}{5}x - y^2 + \frac{3}{2}xy\right)^2$	$\frac{4}{25}x^2 - \frac{4}{5}xy^2 + \frac{6}{5}x^2y + y^4 - 3xy^3 + \frac{9}{4}x^2y^2$