

Operazioni con i monomi

semplifica le seguenti espressioni di monomi		
1	$3ab^2 + 5ab^2 - 7ab^2$	ab^2
2	$11x + 6x - 8x - 3x$	$6x$
3	$12y + 8x^2 + 7x^2 - 12y - 15x^2$	0
4	$7a^2b^2 - 4a^2b^2 + 8ab + 3ab + 5ab + 9a^2b^2 - ab$	$12a^2b^2 + 15ab$
5	$5bc + \left(\frac{3}{4}ab\right) + \left(-\frac{1}{2}bc\right) - (-3ab)$	$\frac{9}{2}bc + \frac{15}{4}ab$
6	$5x + 3y - [2x - (4y - 3x)]$	$7y$
7	$-\frac{5}{3}a + a^2 - \left(-\frac{1}{3}a - \frac{1}{2}a\right) - \frac{1}{2}a + \frac{1}{2}a^2$	$-\frac{4}{3}a + \frac{3}{2}a^2$
8	$\left(-\frac{7}{24}mn\right) + \left\{\frac{7}{3}mn - \left[\frac{19}{12}mn - \left(\frac{1}{2}mn + mn - \frac{3}{8}mn\right)\right]\right\}$	$\frac{19}{12}mn$
9	$\frac{1}{5}x^2y - \left(\frac{1}{3}x^2y^3\right) + \left(-\frac{3}{2}x^2y^3\right) - 0,3x^2y + \left(-\frac{1}{6}x^2y^3\right) - \left(-\frac{5}{6}x^2y\right) - \frac{1}{2}x^2y^3$	$\frac{7}{10}x^2y - \frac{5}{2}x^2y^3$
10	$(0,4ab) \cdot \left(-\frac{2}{5}a^2b\right)$	$-\frac{4}{25}a^3b^2$
11	$[2y(a^2 - 6a^2) + (y + 3y) \cdot a^2] : (3a^2)$	$-2y$
12	$a[a^2x - (2a^2x - 3a^2x)] - 3a^2\left(\frac{5}{3}ax\right) + 1 + 4a^2x\left(2a - \frac{3}{2}a\right)$	$1 - a^3x$
13	$-\frac{5}{2}xy^2 \cdot \left(+\frac{1}{3}xy\right) \cdot \left(-\frac{1}{5}x^2y\right)$	$\frac{1}{6}x^4y^4$
14	$\left(\frac{8}{7}b^4 - \frac{1}{7}b^4 - b^4\right) \cdot (8b - 3b)$	0
15	$[3a^2(-2b) + 2a^2b - 10a^2(-b)](-1,5b)$	$-9a^2b^2$
16	$-3ab^2(-2a^2b) + 4a^3b^3 - (-2a^3b)(-3b^2) - 8a^3b^3$	$-4a^3b^3$
17	$(3a - 4a + 2a)^2 \cdot [3a^2 - 5a \cdot (5a - 4a + 2a)] : (3a^2)$	$-4a^2$
18	$-\frac{1}{4}x(-2xy)(-8y) - 4xy(-xy) + (-2y)(-2x) - 8\left(-\frac{1}{2}x\right)\left(-\frac{1}{2}y\right)$	$2xy$

19	$\left[\frac{5}{2}m^3n^2 : (-3mn) - \frac{5}{3}mn \left(-\frac{1}{2}m \right) - \frac{1}{3}mn(2n) - 4m^3n^2 : (3m^2) \right]^3$	$-8m^3n^6$
20	$ab^3c \cdot \left(-\frac{3}{4}abc^2 \right)^2 : \left(\frac{1}{2}a^2b^3c^3 \right)$	$\frac{9}{8}ab^2c^2$
21	$\left[\left(-\frac{13}{2}ab + 5ab \right)^3 \left(\frac{13}{2}ab - 5ab \right)^2 : \left(-\frac{3}{2}ab \right)^4 \right] \cdot \left(-\frac{1}{2}ab \right) - b^2 \cdot \left(3a - \frac{1}{2}a \right)^2$	$-\frac{11}{2}a^2b^2$
22	$\left(-\frac{1}{2}a^2 \right)^3 : \left(\frac{1}{32}a^5 \right) - 2a + 7a^2 + \frac{10}{3}a^5 : \left(-\frac{2}{3}a^3 \right) - \left(-\frac{3}{2}a \right)^2 : \left(-\frac{3}{4} \right)$	$5a^2 - 6a$
23	$\left(-\frac{1}{2}xyz^2 \right) \left(-\frac{1}{2}xz \right) + \left[\left(-\frac{3}{2}xyz^2 \right)^2 \left(-\frac{1}{2}x^2yz^3 \right) \right] : \left(+\frac{3}{2}xyz^2 \right)^2$	$-\frac{1}{4}x^2yz^3$
24	$(-2m^4)^2 : \left[\left(\frac{1}{2}m^3 \right) (-4m^4) \right] + (2m)^3 : (-m)^2 + (-6m^3) : 2m^2$	$3m$
25	$\left[(-y)(-5) + \frac{3}{4}xy(-4xy^2) - 5y + 3xy(2xy^2) \right] \cdot \left(-\frac{7}{27}xy^2z \right)$	$-\frac{7}{9}x^3y^5z$
26	$\left[\left(\frac{3}{5}x^2y^2 \right) \left(\frac{2}{3}x^3y \right) \right]^2 : \left(\frac{8}{5}x^8y^5 \right) - \left(\frac{2}{3}xy - \frac{1}{4}xy \right) \cdot (3x^2y) : (-xy)$	$\frac{27}{20}x^2y$
27	$-\frac{25}{18}a^7 : \left(\frac{10}{9}a^4 \right) : \frac{25}{18} + \left(-\frac{15}{4}a^2 \right) \left(-\frac{3}{5}a \right)$	$\frac{27}{20}a^3$
28	$-\frac{5}{8}m^3n^5 \left(-\frac{3}{2}m^3n^4 \right) : \left(\frac{9}{10}m^5n^6 \right) + \frac{21}{4}m^5n^7 : \left(-\frac{9}{2}m^4n^4 \right)$	$-\frac{1}{8}mn^3$
29	$-2ab(-0, \bar{3}a^2b)^2 : (-6a^3b) - [-a^2(-b)^2]^4 : (-1,5a^2b^2)^3$	$\frac{1}{3}a^2b^2$
30	$\left(\frac{1}{3}ab + \frac{1}{2}ab + \frac{1}{6}ab \right)^4 : (-a^2b^2)^2$	1
31	$-\frac{12}{5}a \cdot \left(-\frac{3}{4}a^2b^3 \right)^2 + \frac{2}{15}a^2 \cdot \left(+\frac{3}{2}ab^2 \right)^3 - \left(-\frac{1}{5}a^5b^6 \right)$	$-\frac{7}{10}a^5b^6$
32	$\left[\frac{2}{7}x^5y^7z^9 : \left(\frac{3}{14}x^3y^5z^7 \right) - \frac{1}{3}(-xyz)^2 \right]^3 : \left[x^2y^2z^7 : \left(\frac{1}{7}x^2yz^6 \right) \right]$	$\frac{1}{7}x^6y^5z^5$
33	$\left[a^2 - (-ab) \left(\frac{2}{3}ab \right) : 2b^2 \right] + \left[(-2a^2) \left(\frac{2}{3}ab^2 \right) + 2a^3b^2 \right]^2 : [(-ab)^2]^2$	$\frac{16}{9}a^2$
34	$(ab - 2ab)^{10} \cdot \frac{1}{2} + \frac{1}{3} [3a^2b^2 - 2(ab)^2]^5 - \left(-\frac{1}{2}ab^5 \right)^2 \cdot [(-a^2)^2]^2$	$\frac{7}{12}a^{10}b^{10}$
35	$\left[\left(-\frac{1}{2}xy^2 \right)^4 x^5y + \left(-\frac{1}{2}x^3y^3 \right)^3 + (-x^2y)^3(-xy^2)^3 \right] : \left[\left(-\frac{1}{4}x^3y^2 \right)^2 - x^6y^4 \right]$	$-x^3y^5$

36	$(-1,5x)^3 + \left[(-0,5a^2x)^2 : \left(-\frac{1}{10}a^2x\right) - 0,2(-ax)^3 : (-0,1ax^2)\right]^3 : (-3a^2)^3$	0
37	$\frac{1}{2}\{4a^2x^3y - 3a \cdot [4a^5x^7y : (2a^4)x^4]\}^2 : [2x(a^2x)^2 - 3a^4x^3]$	$-2x^3y^2$
38	$-5a^3b^2 + 7a^3b^2 + 3a^3b^2$	$5a^3b^2$
39	$7ab^2 - 5a^2b + a^2b + 3ab^2$	$10ab^2 - 4a^2b$
40	$4xy - 7xy - xy$	$-4xy$
41	$-\frac{2}{3}xy + \frac{3}{4}x^2 - y^2 + \frac{1}{2}xy - \frac{1}{2}x^2$	$\frac{1}{4}x^2 - \frac{1}{6}xy - y^2$
42	$\frac{1}{6}ax^3 - \frac{2}{3}ax^3 + \frac{3}{2}ax^3$	ax^3
43	$0,5ab^2c - \frac{1}{5}ab^2c + 0,3ab^2c$	$\frac{3}{5}ab^2c$
44	$\frac{2}{3}a^2 - b^2 - a^2 - \frac{2}{3}a + b^2 + 2b + \frac{2}{3}a - \frac{3}{5}b$	$-\frac{1}{3}a^2 + \frac{7}{5}b$
45	$\frac{7}{3}a^2b - \left(-\frac{1}{2}\right) + \left(-\frac{3}{4}a^2b\right) - \left(+\frac{1}{3}\right) - (a^2b)$	$\frac{7}{12}a^2b + \frac{1}{6}$
46	$0,2ab^2 + (-3a^2b) - \left(-\frac{1}{2}a\right) - \left(+\frac{4}{3}a^2b\right) + (-ab^2) - (+0,5a)$	$-\frac{4}{5}ab^2 - \frac{13}{3}a^2b$
47	$\frac{3}{2}x^2y^4z - 2x^2y^4z + \frac{3}{4}x^2y^4z - \frac{7}{10}x^2y^4z$	$-\frac{9}{20}x^2y^4z$
48	$4mn^2 - (-5ab^3) + \left(-\frac{3}{4}\right) + (-9ab^3) - \left(-\frac{1}{2}\right) + (-3mn^2) + (-mn^2)$	$-4ab^3 - \frac{1}{4}$
49	$\frac{2}{3}x - \left(-\frac{1}{2}x^2y\right) + 3x^2y + (-x) - (2x^2y) + (-x) - \left(-\frac{1}{2}x\right)$	$-\frac{5}{6}x + \frac{3}{2}x^2y$
50	$\frac{3}{4}axy^2 + \left(-\frac{1}{2}a^2xy^2\right) + \left(-\frac{1}{4}axy^2\right) + \frac{2}{5} - (-3a^2xy^2) - 3$	$\frac{1}{2}axy^2 + \frac{5}{2}a^2xy^2 - \frac{13}{5}$
51	$\frac{2}{3}ab^2 \left(-\frac{3}{2}\right)a^3b - (3a^2b)a^2b^2$	$-4a^4b^3$
52	$3a^3b(+2ab^4) + \frac{1}{3}ab^2 \left(-\frac{9}{2}a^3b^3\right)$	$\frac{9}{2}a^4b^5$
53	$\frac{3}{2}abx \left(-\frac{8}{3}a^3bx^2\right) + \frac{4}{3}a^4x^3 \left(-\frac{1}{2}b^2\right)$	$-\frac{14}{3}a^4b^2x^3$

54	$\frac{3}{2}xy^3\left(-\frac{8}{9}x^2y^4\right) + 2ab^5(-3a^2b) + \frac{1}{7}x^3y^5\left(-\frac{7}{2}y^2\right)$	$-\frac{11}{6}x^3y^7 - 6a^3b^6$
55	$-2m^2n(3mn^4) + \frac{1}{3}x^2y^3\left(-\frac{1}{3}xy\right) + 2x^3\left(-\frac{1}{2}y^4\right) + mn^3(-2m^2n^2)$	$-8m^3n^5 - \frac{10}{9}x^3y^4$
56	$-2x\left(\frac{1}{2}x^2y\right)(+3xy^2z) - 5x^3(-2y^2z)\left(\frac{1}{10}xy\right)$	$-2x^4y^3z$
57	$2a(-2ab)^3 - 6(-a^2b)(-a^2b^2) + 5a^4b^3 + 8a^6b^3 : (-2a^2)$	$21a^4b^3$
58	$-7a^3 + 18a^5 : (-6a^2) - 2a^2(-a) + 3a^3 - 20a^3 : (-4)$	0
59	$(xy^2)^2 + y^2(-3xy) - 5x^2y^4 - xy^2(-4y)$	$-4x^2y^4 + xy^3$
60	$3x(-5x^3) + (-x^2)^2 + (-4x^2)(-2x^2)$	$-6x^4$
61	$x^2b^2(-3x^3b) + 2x^2(-4x^2b)(-xb^2) - (-4x^3b^2)(-x^2b)$	x^5b^3
62	$(-ab^2c)^2 + \frac{1}{4}ab^3c^2(ab)$	$\frac{5}{4}a^2b^4c^2$
63	$\left(\frac{1}{3}bc^2x^2\right)^3 \left(\frac{1}{2}b^2cx^3\right)^2 + \frac{1}{2}b(-b^3c^4x^6)^2$	$\frac{55}{108}b^7c^8x^{12}$
64	$(-x^3y^2z)^3 + \frac{1}{2}x^2z\left(-\frac{4}{3}xy^2\right)$	$-x^9y^6z^3 - \frac{2}{3}x^3y^2z$
65	$\frac{1}{5}abm\left(\frac{1}{3}ab^3\right)^3 + \frac{2}{3}b^2m\left(\frac{1}{2}a^2b^4\right)^2 + \frac{1}{2}b^2m(ab^2)^4$	$\frac{46}{135}a^4b^{10}m$
66	$(3abc)^4[(2mnx)^3]^2 + \frac{1}{5}a^4b^4x^6(5c^4m^6n^6)$	$5185a^4b^4c^4m^6n^6x^6$
67	$\frac{1}{3}b(a^3b)^2 + \left(\frac{2}{3}xy^2\right)^3 (a^2m)^3 + \frac{2}{5}a^3\left(\frac{1}{3}ab\right)^3 + \frac{1}{3}am^3x^3y(ay)^5$	$\frac{47}{135}a^6b^3 + \frac{17}{27}a^6m^3x^3y^6$
68	$(-a^3b^5c^7)^3 - \frac{8}{3}ab^3c\left(\frac{1}{2}a^2b^3c^5\right)^4 + \frac{1}{2}a^3bc^6\left(\frac{1}{3}a^3bc^4\right)^5$	$-\frac{7}{6}a^9b^{15}c^{21} + \frac{1}{486}a^{18}b^6c^{26}$
69	$5a(-2ab)^3 + 2b\left(\frac{1}{2}a^2b\right)^2 - (-2ab^2)^2 - 5a^2(-3b^2)^2$	$-\frac{79}{2}a^4b^3 - 49a^2b^4$
70	$(a^2b)^3(-2ab^2)^3 - \left(\frac{1}{2}a^2b^2\right)^3 (-2ab)^3 + \left(\frac{3}{2}a^2b^2\right)^4 \left(-\frac{4}{9}ab\right)$	$-\frac{37}{4}a^9b^9$
71	$-2a \cdot (3b^2) + b(-4ab) + 12a^2b^2 : 3a$	$-6ab^2$

72	$15a^7 : (-3a^2) - 3a(+2a^4) - 2a^2(-4a^3) + 6a^5$	$3a^5$
73	$[x^2y^3(-3xy^2)(+5xy) - 3x^3y^2(-xy^4)] : [-2x^3y(+7xy) + 10(-x^2y)^2]$	$3y^4$
74	$\frac{2}{5}a^2bc^3 \left(+\frac{5}{4}ab^2c \right) - \frac{8}{3}ac^2 \left(-\frac{1}{4}a^2b^3c^2 \right) + 7a^2b^2c^2 \left(-\frac{1}{7}abc^2 \right)$	$\frac{1}{6}a^3b^3c^4$
75	$-2 - \frac{5}{9} \left(-\frac{1}{5}y \right) - \frac{3}{2}y - \frac{25}{9} \left(-\frac{6}{5}y \right) + \frac{3}{4} - \frac{1}{9}y$	$\frac{11}{6}y - \frac{5}{4}$
76	$\frac{3}{5} + \frac{9}{8}x^3 : \left(-\frac{3}{4}x \right) + \frac{1}{2}x - 2 + \frac{2}{5} \left(-\frac{5}{3}x \right) - \frac{3}{4}x^5 : \left(-\frac{1}{2}x^3 \right)$	$-\frac{1}{6}x - \frac{7}{5}$
77	$\frac{2}{5}(-x^2)^2 + y^3 - \frac{1}{8}x^6 : \left(-\frac{5}{4}x^2 \right) + \frac{3}{2}x \left(-\frac{1}{6}x^3 \right) - \frac{8}{15}y \left(\frac{5}{4}y^2 \right)$	$\frac{1}{4}x^4 + \frac{1}{3}y^3$
78	$\left[\left(\frac{1}{2}ab^2c^3 \right)^2 : \left(-\frac{3}{2}ab^2c^4 \right) \right] 3a + \left(-\frac{1}{2}abc \right)^2 - a^2b^2c^2$	$-\frac{5}{4}a^2b^2c^2$
79	$\left[\left(-\frac{2}{3}x \right)^2 \right]^2 : \left(\frac{1}{3}x \right)^3 + \left(-\frac{2}{3}y^3 + 5y^5 : \frac{5}{6}y^2 \right) : y^2 + \frac{2}{3}x$	$6x + \frac{16}{3}y$
80	$[7ab + 2a(-4b)]^3 - ab \left(\frac{1}{3}ab \right)^2 - \frac{5}{2}a^2b \left(-\frac{1}{3}ab^2 \right)$	$-\frac{5}{18}a^3b^3$
81	$\{xy^2 : xy + x^2(-xy)^2 : [(-x^2y^2)x^3]\} : y$	$1 - \frac{1}{xy}$
82	$[(-x)^2]^2(-y)^4 : (-xy)^2 + \frac{1}{3}x^2y^4 : (-y)^2 - (3x^3yz)^2 : (x^4z^2)$	$-\frac{23}{3}x^2y^2$
83	$\left[(ax^3yz^4 : axyz)^3 - \frac{1}{2}(ax^3z^2)^3 \right] : x^6z^6$	$z^3 - \frac{1}{2}a^3x^3$
84	$[3x^3y^3 : (-2xy)^2] : (-3xy) + [4x^4y^4 : (-2xy)^3] : (-2xy)$	0
85	$\left[\left(\frac{1}{2}x^4y^3z \right)^0 \right]^3 + \frac{1}{2}x^4yz(-3xy)^3 - \frac{5}{4}x^3z(xy)^4$	$1 - \frac{59}{4}x^7y^4z$
86	$\left[\left(-\frac{1}{4}x^2 \right) : \frac{1}{4}x \right]^2 : (-2x) + (-2x^2)^2 : (-3x^3)$	$-\frac{11}{6}x$
87	$\left[(ax^6y^8 : axy^3)^3 - \frac{1}{3}(ax^4y^5 : ay)^3 \left(\frac{1}{2}x^3y^3 \right) \right] : \left(-\frac{5}{6}x^5y^5 \right)$	$-x^{10}y^{10}$