Operazioni con i monomi

indice

Gli esercizi sono proposti in ordine di difficoltà crescente.

nota: in un file così lungo e complesso può accadere che sia presente un errore di diversa natura nonostante gli esercizi siano stati controllati più volte. Saremo grati di ricevere segnalazioni di eventuali refusi o suggerimenti di qualsiasi natura.

Operazioni con monomi

PASSED

1. somma algebrica tra monomi

1	$(+8y)+(+y)$	$+9y$
2	$(+3x)+(-5x)$	$-2x$
3	$(-7m)+(+9m)$	$+2m$
4	$(+9xy)+(-xy)$	$+8xy$
5	$(-a^2)+(+2a^2)$	$+a^2$
6	$(-5ab)+(+8ab)+(+ab)$	$+4ab$
7	$(-ax)+(+8ax)+(+ax)$	$+8ax$
8	$(-a^2b^2)+(+5a^2b^2)+(-a^2b^2)$	$+3a^2b^2$
9	$(-5)+(-3bc^2)+(5b^3)+(-5bc^2)+(+7)$	$5b^3-8bc^2+2$
10	$(16xy)+(-6x^2)+(-8xy)+(+7x^2)+(24x^2)+(+6x^2)$	$+8xy+31x^2$
11	$\left(\frac{1}{2}a^2b^2\right)+(+5a^2b)+(-a^2b^2)$	$-\frac{1}{2}a^2b^2+5a^2b$
12	$\left(-\frac{1}{3}x^2y\right)+(+x^2y)+\left(\frac{1}{5}x^2y\right)$	$\frac{13}{15}x^2y$
13	$\left(+\frac{3}{2}ax^3\right)+\left(\frac{1}{5}ax^3\right)+\left(-\frac{19}{10}ax^3\right)$	$-\frac{1}{5}ax^3$
14	$(-abc)+\left(+\frac{2}{3}abc\right)+\left(-\frac{3}{4}abc\right)+(+7ab)+\left(+\frac{1}{2}abc\right)$	$+7ab-\frac{7}{12}abc$

Operazioni con monomi

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15	$(+9x)-(-x)$	$+10x$
16	$(-10x^3y)-(+2x^3y)$	$-12x^3y$
17	$(-3b^2x)-(-3bx^2)$	$-3b^2x+3bx^2$
18	$(-2a^2)-(+3a^2)$	$-5a^2$
19	$(-3x)-(-5x)$	$+2x$
20	$(+7z)-(+9z)$	$-2z$
21	$(-2ab)-\left(\frac{1}{3}ab\right)$	$-\frac{7}{3}ab$
22	$\left(-\frac{4}{5}b^5\right)-\left(-\frac{2}{9}b^5\right)$	$-\frac{46}{45}b^5$
23	$\left(-\frac{3}{4}a^3c\right)-\left(-\frac{3}{4}a^3c\right)$	0
24	$\left(\frac{11}{5}a^3xy\right)-\left(\frac{2}{3}a^3xy\right)$	$\frac{23}{15}a^3xy$
25	$\left(\frac{11}{2}ax^2\right)-(-ax^2)$	$\frac{13}{2}ax^2$
26	$\left(-\frac{7}{4}ab^2xy\right)-(1{,}75ab^2xy)$	$-\frac{7}{2}ab^2xy$
27	$(3a^nb)-\left(-\frac{1}{2}a^nb\right)$	$\frac{7}{2}a^nb$
28	$4xy-7xy-xy$	$-4xy$
29	$11x+6x-8x-3x$	$6x$

30	$3ab^2 + 5ab^2 - 7ab^2$	ab^2
31	$-5a^3b^2 + 7a^3b^2 + 3a^3b^2$	$5a^3b^2$
32	$7ab^2 - 5a^2b + a^2b + 3ab^2$	$10ab^2 - 4a^2b$
33	$12y + 8x^2 + 7x^2 - 12y - 15x^2$	0
34	$7a^2b^2 - 4a^2b^2 + 8ab + 3ab + 5ab + 9a^2b^2 - ab$	$12a^2b^2 + 15ab$
35	$5x + 3y - [2x - (4y - 3x)]$	$7y$
36	$4a^3b^2 - (+3a^2b) + (-8z) - (-2a^2b) + 12z - (+4a^3b^2)$	$-a^2b + 4z$
37	$-\frac{2}{3}xy + \frac{3}{4}x^2 - y^2 + \frac{1}{2}xy - \frac{1}{2}x^2$	$\frac{1}{4}x^2 - \frac{1}{6}xy - y^2$
38	$\frac{1}{6}ax^3 - \frac{2}{3}ax^3 + \frac{3}{2}ax^3$	ax^3
39	$0{,}5ab^2c - \frac{1}{5}ab^2c + 0{,}3ab^2c$	$\frac{3}{5}ab^2c$
40	$\frac{5}{2}a^2x - (-2a^2x) - \left(-\frac{9}{2}a^2x\right) + \frac{7}{4}a^2x + \frac{5}{4}a^2x$	$12a^2x$
41	$5bc + \left(\frac{3}{4}ab\right) + \left(-\frac{1}{2}bc\right) - (-3ab)$	$\frac{9}{2}bc + \frac{15}{4}ab$
42	$-\frac{5}{3}a + a^2 - \left(-\frac{1}{3}a - \frac{1}{2}a\right) - \frac{1}{2}a + \frac{1}{2}a^2$	$-\frac{4}{3}a + \frac{3}{2}a^2$
43	$3xy + \frac{4}{3}xy^3 - \frac{1}{2}xy^2 - 8xy + \left(-\frac{4}{3}xy^3\right) + 2xy - \left(\frac{1}{2}xy^2\right)$	$-3xy - xy^2$

44	$-\frac{7}{2}p^2-\left(-\frac{5}{4}pq\right)-\left(-\frac{1}{4}pq\right)-\left(-\frac{3}{2}p^2\right)+\left(-\frac{3}{4}pq\right)$	$\frac{3}{4}pq-2p^2$
45	$+\frac{3}{2}abc^2+\left(\frac{1}{2}ab^3-2ab^3\right)-(+6d^2-2d^2)-abc^2$	$-\frac{3}{2}ab^3+\frac{1}{2}abc^2-4d^2$
46	$0,\bar{3}cd-\left(0{,}2cd+\frac{1}{3}cd\right)-\frac{2}{3}cd+\left(\frac{1}{5}cd+\frac{2}{3}cd\right)$	0
47	$3ab^2-\left(-\frac{2}{3}a^2b\right)+2a^2b-\left[-(-ab^2)-\left(-\frac{3}{4}ab^2\right)\right]$	$\frac{8}{3}a^2b+\frac{5}{4}ab^2$
48	$\frac{5}{2}xy+\frac{1}{2}x^2y^2-\left(-\frac{4}{3}x^2y^2\right)+\frac{3}{5}xy+\left(-\frac{3}{2}xy\right)-\left(+\frac{3}{4}x^2y^2\right)$	$\frac{8}{5}xy+\frac{13}{12}x^2y^2$
49	$-abc+\frac{1}{2}a^2-\left(-\frac{1}{3}a^2\right)+\left(-\frac{5}{4}abc\right)-\left(-\frac{5}{4}a\right)+3abc-\left(-\frac{1}{2}a\right)$	$\frac{3}{4}abc+\frac{5}{6}a^2+\frac{7}{4}a$
50	$\frac{3}{2}x^2y-\left(\frac{1}{5}x^2y+\frac{1}{3}x^2y-\frac{2}{3}x^2y\right)-\frac{3}{2}-x^2y-\left(-1-\frac{1}{2}\right)+x^2y$	$\frac{49}{30}x^2y$
51	$\left(-\frac{7}{24}mn\right)+\left\{\frac{7}{3}mn-\left[\frac{19}{12}mn-\left(\frac{1}{2}mn+mn-\frac{3}{8}mn\right)\right]\right\}$	$\frac{19}{12}mn$
52	$\frac{4}{5}x^my^{2n}-\frac{2}{3}xy+\left(-\frac{2}{5}x^my^{2n}\right)-(-4xyz)$	$\frac{2}{5}x^my^{2n}-\frac{2}{3}xy+4xyz$
53	$-\left(+\frac{1}{3}x^py^q\right)-\frac{2}{5}x^{2p}y^q+(-2x^{2p}y^q)-\frac{1}{5}x^py^q$	$-\frac{8}{15}x^py^q-\frac{12}{5}x^{2p}y^q$

2. prodotto tra monomi

54	$(+3x)(-4x)$	$-12x^2$
55	$(+5a)(-3a)$	$-15a^2$

56	$(+2a)(-4ab)$	$-8a^2b$
57	$ax(+5y)$	$5axy$
58	$(-3b^2x)(-3bx^2)$	$+9b^3x^3$
59	$\frac{3}{4}ab^2\left(-\frac{2}{9}a^3bc\right)$	$-\frac{1}{6}a^4b^3c$
60	$-2abc^3\left(-\frac{1}{4}a^2c\right)$	$+\frac{1}{2}a^3bc^4$
61	$-3a^3b^2x^3y(-abx^5y^2)$	$-3a^4b^3x^8y^3$
62	$axy^3(-a^2x)(-2bx)$	$2a^3bx^3y^3$
63	$-\frac{1}{4}xy(-2b^3y^3z^2)(-5by^2)$	$-\frac{5}{2}b^4xy^6z^2$
64	$-2x(-3x^2)\left(-\frac{1}{3}xy\right)\left(-\frac{1}{2}y^2\right)$	x^4y^3
65	$(-6xy)\left(-\frac{1}{3}x^2y\right)\left(\frac{1}{4}xy\right)$	$+\frac{1}{2}x^4y^3$
66	$(-5a^3b^2)\left(+\frac{2}{3}a^2\right)\left(-\frac{3}{10}ab^2c\right)$	$+a^6b^4c$
67	$\left(-\frac{2}{5}a^2b\right)(-5ab^3)\left(-\frac{3}{2}ab^4\right)$	$-3a^4b^8$
68	$(0{,}4ab)\left(-\frac{2}{5}a^2b\right)$	$-\frac{4}{25}a^3b^2$
69	$-\frac{5}{2}xy^2\left(+\frac{1}{3}xy\right)\left(-\frac{1}{5}x^2y\right)$	$\frac{1}{6}x^4y^4$

70	$\left(\frac{8}{7}b^4-\frac{1}{7}b^4-b^4\right)(8b-3b)$	0
71	$-\frac{2}{5}x^2y\left(-\frac{1}{2}x^2y\right)+\frac{1}{10}x^2y(-2x^2y^2)$	$\frac{1}{5}x^4y^2-\frac{1}{5}x^4y^3$
72	$-5x(2x^3)-3x(-x^2)-3x^3$	$-10x^3$
73	$5a(ab)+2a^2(2b)-b(3a^2)$	$6a^2b$
74	$7x^3+x(-2x)+4x^2x+2x^2$	$11x^3$
75	$-3ab^2(-2a^2b)+4a^3b^3-(-2a^3b)(-3b^2)-8a^3b^3$	$-4a^3b^3$
76	$x^2b^2(-3x^3b)+2x^2(-4x^2b)(-xb^2)-(-4x^3b^2)(-x^2b)$	b^3x^5
77	$xy(3x^2y^2)-2xy(-5xy)+x^2y^2(-3xy)-10xy(xy)$	0
78	$\left(\frac{1}{2}xy-xy\right)(x^2-3x^2+4x^2)$	$-x^3y$
79	$5ab\left(-\frac{2}{5}ab^3\right)-a^2b^2\left(-\frac{1}{2}b^2\right)$	$-\frac{3}{2}a^2b^4$
80	$-2-\frac{5}{9}\left(-\frac{1}{5}y\right)-\frac{3}{2}y-\frac{25}{9}\left(-\frac{6}{5}y\right)+\frac{3}{4}-\frac{1}{9}y$	$\frac{11}{6}y-\frac{5}{4}$
81	$\frac{2}{3}a^2\left(-\frac{5}{8}ab\right)+\frac{4}{5}a^2b\left(-\frac{3}{8}a\right)-\frac{3}{4}ab\left(-\frac{10}{9}a^2\right)$	$\frac{7}{60}a^3b$
82	$\frac{3}{5}x^2y(0{,}3x)+\frac{2}{5}y\left(-\frac{1}{2}x\right)(x^2)+xy\left(-\frac{1}{5}\right)y$	$-\frac{1}{50}x^3y-\frac{1}{5}xy^2$
83	$a[a^2x-(2a^2x-3a^2x)]-3a^2\left(\frac{5}{3}ax\right)+1+4a^2x\left(2a-\frac{3}{2}a\right)$	$1-a^3x$

84	$6a^2b\left(a-\frac{1}{2}a\right)+a[a^2b-(2a^2b-3a^2b)]-5ba^3$	0
85	$y(3xy-4xy)x+\frac{2}{3}xy\left[\frac{3}{2}xy-(xy+2xy)\right]-y$	$-2x^2y^2-y$
86	$ax(x-2x)+\frac{2}{3}ax-\frac{3}{2}\left[ax+2ax-\left(\frac{1}{2}ax-ax\right)+2ax+x(-5a)\right]$	$-\frac{1}{12}ax-ax^2$
87	$p\left\{q\left[x^2-3\left(x^2-\frac{1}{3}x^2\right)\right]\right\}+x^2(pq-2pq)+qx^2\left[p+2\left(p-\frac{1}{3}p\right)\right]$	$\frac{1}{3}pqx^2$
88	$3a^2b^{m-1}(2a^mb^3)$	$6a^{m+2}b^{m+2}$
89	$\frac{1}{4}x^{3n}\left(-\frac{8}{3}x^n\right)$	$-\frac{2}{3}x^{4n}$
90	$5a^mb^{2n}\left(-\frac{1}{4}a^{2m}b^n\right)$	$-\frac{5}{4}a^{3m}b^{3n}$
91	$-\frac{1}{4}x^{2n+1}y^n\left(-\frac{4}{3}x^ny^{n+1}\right)$	$\frac{1}{3}x^{3n+1}y^{2n+1}$
92	$5\left(-\frac{3}{4}xy^2\right)-x^2(-3x^ny)+2x^n(-x^2y)$	$-\frac{15}{4}xy^2+x^{n+2}y$
93	$2x^m(-x^2)+\frac{2}{3}x(x^m)x-3xy(-y^4)-\frac{1}{3}x^2(-2x^m)$	$3xy^5-\frac{2}{3}x^{m+2}$

3. divisione tra monomi

94	$a^5:a^3$	a^2
95	$2z^3:z^2$	$2z$
96	$3x^2:x^2$	3
97	$49xy:7xy$	7

98	$10a^6bc^2 : 5a^3c^2$	$2a^3$
99	$-12a^2b : (-3ab)$	$4a$
100	$-20a^3b^2 : 4ab$	$-5a^2b$
101	$-a^2b^3c : 5a^2bc$	$-\frac{1}{5}b^2$
102	$-\frac{4}{3}x^3y^4z : \left(-\frac{5}{3}x^2y^2\right)$	$\frac{4}{5}xy^2z$
103	$-\frac{2}{3}x^4y^5z^2 : \left(-\frac{5}{2}x^3y^2z\right)$	$\frac{4}{15}xy^3z$
104	$-\frac{7}{2}a^3b^5c^2y^3 : \frac{21}{4}a^3b^2c$	$-\frac{2}{3}b^3cy^3$
105	$-\frac{3}{4}a^3b^2p^4q^4 : \left(-\frac{3}{8}ab^2p^3q^2\right)$	$2a^2pq^2$
106	$-\frac{5}{3}a^6b^5c^2 : \left(-\frac{3}{4}a^5b^4c\right)$	$\frac{20}{9}abc$
107	$15a^2b^3 : (+3a^2b^2) - (-6ab) : (-2a) + 3b$	$5b$
108	$36a^4 : (6a^2) - (-8a^3b + 2a^3b) : (-3ab)$	$4a^2$
109	$2x^2(-6xy) : (3x^2y) + 3xy : (-y) + 15x^2y^3 : (-3xy^3)$	$-12x$
110	$-\frac{1}{3}a^4y^2 : \left(-\frac{1}{9}ay\right) + \frac{1}{2}ay : \left(-\frac{3}{2}\right) + \frac{4}{3}ay$	$3a^3y + ay$
111	$16x^3y^4 : (-4x^2y^2)\left(-\frac{3}{4}xy^2\right)$	$3x^2y^4$
112	$-\frac{25}{18}a^7 : \left(\frac{10}{9}a^4\right) : \frac{25}{18} + \left(-\frac{15}{4}a^2\right)\left(-\frac{3}{5}a\right)$	$\frac{27}{20}a^3$

113	$\frac{3}{5}+\frac{9}{8}x^3:\left(-\frac{3}{4}x\right)+\frac{1}{2}x-2+\frac{2}{5}\left(-\frac{5}{3}x\right)-\frac{3}{4}x^5:\left(-\frac{1}{2}x^3\right)$	$-\frac{1}{6}x-\frac{7}{5}$
114	$-\frac{5}{8}m^3n^5\left(-\frac{3}{2}m^3n^4\right):\left(\frac{9}{10}m^5n^6\right)+\frac{21}{4}m^5n^7:\left(-\frac{9}{2}m^4n^4\right)$	$-\frac{1}{8}mn^3$
115	$\left(\frac{3}{4}a^3bc^4\right):(-3abc^2)\left(-\frac{1}{3}ac\right)$	$\frac{1}{12}a^3c^3$
116	$b-\left[2b+bn:\left(3n-\frac{n}{2}\right)\right]+8b^3:(4b^2)$	$\frac{3}{5}b$
117	$\left[\left(\frac{1}{3}ab^2\right)(-3a^2b)(-5a^2b)\right]:\left[(4a^2b)(-3ab^2)\left(\frac{1}{3}b\right)\right]$	$-\frac{5}{4}a^2$
118	$\left[\left(-\frac{3}{5}x^3y^3z^5\right):\left(-\frac{1}{5}x^3y^3z^3\right)+\frac{3}{2}\left(-\frac{z^2}{2}\right)\right]:(3z)$	$\frac{3}{4}z$
119	$\left\{\left[ax^4y^2:\left(-\frac{1}{3}ax^3y\right)\right]:\left(-\frac{1}{5}xy\right)\right\}\left(+\frac{1}{3}axy\right)$	$5axy$
120	$-\frac{1}{3}at(2t)-2a^3t^2:(+3a^2)+\frac{5}{2}a^3t^2:(-3at)+\frac{3}{2}at\left(+\frac{1}{2}a\right)$	$-\frac{4}{3}at^2-\frac{1}{12}a^2t$
121	$45a^3b^{4m}:(-9ab^{3m})$	$-5a^2b^m$
122	$-12x^{2m}y^3z^5:(-3x^5y^n)$	$4x^{2m-5}y^{3-n}z^5$
123	$\left(b^mc^n+\frac{1}{2}b^mc^n\right)(2c^n-3c^n):\left(\frac{3}{2}b^m-b^m\right)$	$-3c^{2n}$
124	$(a^{2n}+2a^{2n}-4a^{2n}):\left(a^{1-n}-\frac{1}{2}a^{1-n}\right)$	$-2a^{3n-1}$

4. potenza di monomi

125	$(a^3)^2$	a^6

126	$(-x^4)^3$	$-x^{12}$
127	$(+2z)^3$	$8z^3$
128	$(-2a^5bc^3)^4$	$16a^{20}b^4c^{12}$
129	$(-a^2b^3)^2$	a^4b^6
130	$(-2xyz^3)^3$	$-8x^3y^3z^9$
131	$\left(-\frac{1}{4}x^2y\right)^3$	$-\frac{1}{64}x^6y^3$
132	$\left(\frac{1}{2}a^3b^5c^3\right)^3$	$\frac{1}{8}a^9b^{15}c^9$
133	$\left(-\frac{2}{3}a^{13}x^{15}\right)^0$	1
134	$\left(-\frac{1}{3}x^3y^2\right)^3$	$-\frac{1}{27}x^9y^6$
135	$(-0{,}2a^3)^3$	$-\frac{1}{125}a^9$
136	$(0,\bar{3}ab^2)^2$	$\frac{1}{9}a^2b^4$
137	$(-1{,}5xy^4)^3$	$-\frac{27}{8}x^3y^{12}$

138	$[(-x^2y^3t)^2]^5$	$x^{20}y^{30}t^{10}$
139	$\left[\left(\frac{1}{2}x^2y\right)^2\right]^3$	$\frac{1}{64}x^{12}y^6$
140	$[-(-xy)^2]^3$	$-x^6y^6$
141	$\left(-\frac{1}{2}a^2b\right)^2$	$\frac{1}{4}a^4b^2$
142	$[(-xy^3)^3]^2$	x^6y^{18}
143	$\left(-\frac{1}{2}b^2t\right)^3$	$-\frac{1}{8}b^6t^3$
144	$\left(2x-\frac{1}{2}x\right)^2(-2xy-2xy)^3$	$-144x^5y^3$
145	$\left(-\frac{2}{3}a^3b^2c\right)^3:\left(+\frac{4}{3}a^2bc\right)^2(3abc^2)$	$-\frac{1}{2}a^6b^5c^3$
146	$-\frac{2}{3}xyz^2(+3xy^3)^3(-xy)^4$	$-18x^8y^{14}z^2$
147	$\left[\left(\frac{1}{2}a^5b^3\right)^2(2ab^2)^3\right]:(-ab)^2$	$2a^{11}b^{10}$
148	$\left(-\frac{3}{2}ab-0{,}5ab\right)^3\left(1-\frac{2}{3}\right)^2$	$-\frac{8}{9}a^3b^3$
149	$ab^3c\left(-\frac{3}{4}abc^2\right)^2:\left(\frac{1}{2}a^2b^3c^3\right)$	$\frac{9}{8}ab^2c^2$
150	$\left(\frac{1}{3}ab+\frac{1}{2}ab+\frac{1}{6}ab\right)^4:(-a^2b^2)^2$	1

151	$3x(-5x^3)+(-x^2)^2+(-4x^2)(-2x^2)$	$-6x^4$
152	$-2y(x)^2+4x^2y+9x^4y^2:(3x^2y)$	$2x^2y$
153	$x(-2x)^2+15x^6:(3x^3)-4x^3$	$5x^3$
154	$(xy^2)^2+y^2(-3xy)-5x^2y^4-xy^2(-4y)$	$-4x^2y^4+xy^3$
155	$-7a^3+18a^5:(-6a^2)-2a^2(-a)+3a^3-20a^3:(-4)$	0
156	$2a(-2ab)^3-6(-a^2b)(-a^2b^2)+5a^4b^3+8a^6b^3:(-2a^2)$	$-21a^4b^3$
157	$[-ab^3(-5a^3b):(-ab)^2]^2:\left(-\frac{5}{3}ab^2\right)^2-2a^2$	$7a^2$
158	$\frac{1}{2}(a^2)^3+(-3a^3)^2-[-(-2a^2)^3(-24a^3)^0+(-a^3)^2]$	$\frac{1}{2}a^6$
159	$a^2x^2(-2a^2x)^2-(-3a^9x^5)^2:(a^2x)^6-(-2a^2x^2)^3:x^2$	$3a^6x^4$
160	$[(-x)^2]^2(-y)^4:(-xy)^2+\frac{1}{3}x^2y^4:(-y)^2-(3x^3yz)^2:(x^4z^2)$	$-\frac{23}{3}x^2y^2$
161	$\left[\left(-\frac{1}{2}a^2-\frac{3}{2}a^2\right)^2(-b)^3-(-3a^2)^2(-b)^3\right]:(-5b):(-a^2b)^2$	-1
162	$\left\{\left[\left(+\frac{1}{2}ab^2+\frac{1}{3}ab^2\right)^2:\left(\frac{5}{18}a^2\right)+\frac{3}{2}b^4\right]:(2b^3)-2b\right\}^6$	0

163	$\left(\frac{3}{2}x^m y^2\right)^3$	$\frac{27}{8}x^{3m}y^6$
164	$[(a^{p+2}b^{1-q})^2]^3$	$a^{26+12}b^{6-6q}$
165	$[\,(-2a^m b^n)^p]^q$	$(-2)^{pq}a^{mpq}b^{npq}$

5. espressioni fra monomi

166	$12x^2 + 16x^4 : (-4x^2) \; - 4x(2x)$	0
167	$3x^2 - (2y) + 4x(2x) + 5y^2 : y$	$11x^2 + 3y$
168	$a^2 - (4a)^2 - (-3)^2 a^2 + 8a^3 : 2a$	$-20a^2$
169	$-2a(3b^2) + b(-4ab) + 12a^2b^2 : 3a$	$-6ab^2$
170	$15a^7 : (-3a^2) - 3a(+2a^4) - 2a^2(-4a^3) + 6a^5$	$3a^5$
171	$(3a - 4a + 2a)^2[3a^2 - 5a(5a - 4a + 2a)] : (3a^2)$	$-4a^2$
172	$(-ab^2c)^2 + \frac{1}{4}ab^3c^2(ab)$	$\frac{5}{4}a^2b^4c^2$
173	$(-x^3y^2z)^3 + \frac{1}{2}x^2z\left(-\frac{4}{3}xy^2\right)$	$-x^9y^6z^3 - \frac{2}{3}x^3y^2z$
174	$\frac{3}{2}x^2y^4z - 2x^2y^4z + \frac{3}{4}x^2y^4z - \frac{7}{10}x^2y^4z$	$-\frac{9}{20}x^2y^4z$
175	$\frac{2}{3}ab^2\left(-\frac{3}{2}\right)a^3b - (3a^2b)a^2b^2$	$-4a^4b^3$

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176	$3a^3b(+2ab^4)+\frac{1}{3}ab^2\left(-\frac{9}{2}a^3b^3\right)$	$\frac{9}{2}a^4b^5$
177	$\frac{3}{2}abx\left(-\frac{8}{3}a^3bx^2\right)+\frac{4}{3}a^4x^3\left(-\frac{1}{2}b^2\right)$	$-\frac{14}{3}a^4b^2x^3$
178	$\frac{2}{3}a^2-b^2-a^2-\frac{2}{3}a+b^2+2b+\frac{2}{3}a-\frac{3}{5}b$	$-\frac{1}{3}a^2+\frac{7}{5}b$
179	$\frac{7}{3}a^2b-\left(-\frac{1}{2}\right)+\left(-\frac{3}{4}a^2b\right)-\left(+\frac{1}{3}\right)-(a^2b)$	$\frac{7}{12}a^2b+\frac{1}{6}$
180	$0{,}2ab^2+(-3a^2b)-\left(-\frac{1}{2}a\right)-\left(+\frac{4}{3}a^2b\right)+(-ab^2)-(+0{,}5a)$	$-\frac{4}{5}ab^2-\frac{13}{3}a^2b$
181	$[3x^3y^3:(-2xy)^2]:(-3xy)+[4x^4y^4:(-2xy)^3]:(-2xy)$	0
182	$\left(-\frac{1}{2}t^3\right)^3:\left[\frac{2}{3}t(-t^3)^2\right]-t\left(-\frac{3}{4}t^3\right):\left(\frac{1}{2}t^2\right)$	$\frac{21}{16}t^2$
183	$\left[\left(-\frac{2}{3}x\right)^2\right]^2:\left(\frac{1}{3}x\right)^3+\left(-\frac{2}{3}y^3+5y^5:\frac{5}{6}y^2\right):y^2+\frac{2}{3}x$	$6x+\frac{16}{3}y$
184	$[7ab+2a(-4b)]^3-ab\left(\frac{1}{3}ab\right)^2-\frac{5}{2}a^2b\left(-\frac{1}{3}ab^2\right)$	$-\frac{5}{18}a^3b^3$
185	$\frac{2}{3}x-\left(-\frac{1}{2}x^2y\right)+3x^2y+(-x)-(2x^2y)+(-x)-\left(-\frac{1}{2}x\right)$	$-\frac{5}{6}x+\frac{3}{2}x^2y$
186	$\frac{3}{4}axy^2+\left(-\frac{1}{2}a^2xy^2\right)+\left(-\frac{1}{4}axy^2\right)+\frac{2}{5}-(-3a^2xy^2)-3$	$\frac{1}{2}axy^2+\frac{5}{2}a^2xy^2-\frac{13}{5}$
187	$\left[(-y)(-5)+\frac{3}{4}xy(-4xy^2)-5y+3xy(2xy^2)\right]\left(-\frac{7}{27}xy^2z\right)$	$-\frac{7}{9}x^3y^5z$

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188	$\frac{3}{2}xy^3\left(-\frac{8}{9}x^2y^4\right)+2ab^5(-3a^2b)+\frac{1}{7}x^3y^5\left(-\frac{7}{2}y^2\right)$	$-\frac{11}{6}x^3y^7-6a^3b^6$
189	$-2m^2n(3mn^4)+\frac{1}{3}x^2y^3\left(-\frac{1}{3}xy\right)+2x^3\left(-\frac{1}{2}y^4\right)+mn^3(-2m^2n^2)$	$-8m^3n^5-\frac{10}{9}x^3y^4$
190	$-2x\left(\frac{1}{2}x^2y\right)(+3xy^2z)-5x^3(-2y^2z)\left(\frac{1}{10}xy\right)$	$-2x^4y^3z$
191	$\left[\frac{5}{2}m^3n^2:(-3mn)-\frac{5}{3}mn\left(-\frac{1}{2}m\right)-\frac{1}{3}mn(2n)-4m^3n^2:(3m^2)\right]^3$	$-8m^3n^6$
192	$\left(\frac{1}{3}bc^2x^2\right)^3\left(\frac{1}{2}b^2cx^3\right)^2+\frac{1}{2}b(-b^3c^4x^6)^2$	$\frac{55}{108}b^7c^8x^{12}$
193	$\left(-\frac{1}{2}a^2\right)^3:\left(\frac{1}{32}a^5\right)-2a+7a^2+\frac{10}{3}a^5:\left(-\frac{2}{3}a^3\right)-\left(-\frac{3}{2}a\right)^2:\left(-\frac{3}{4}\right)$	$5a^2-6a$
194	$\left(-\frac{1}{2}xyz^2\right)\left(-\frac{1}{2}xz\right)+\left[\left(-\frac{3}{2}xyz^2\right)^2\left(-\frac{1}{2}x^2yz^3\right)\right]:\left(+\frac{3}{2}xyz^2\right)^2$	$-\frac{1}{4}x^2yz^3$
195	$\left[\left(\frac{1}{2}x^4y^3z\right)^0\right]^3+\frac{1}{2}x^4yz(-3xy)^3-\frac{5}{4}x^3z(xy)^4$	$1-\frac{59}{4}x^7y^4z$
196	$\left[\left(\frac{3}{5}x^2y^2\right)\left(\frac{2}{3}x^3y\right)\right]^2:\left(\frac{8}{5}x^8y^5\right)-\left(\frac{2}{3}xy-\frac{1}{4}xy\right)(3x^2y):(-xy)$	$\frac{27}{20}x^2y$
197	$(-x^2)^2-0{,}75x\cdot[-x^3z^2:(-xz)^2]^3\left[+\frac{1}{3}x^3z^2:(-0{,}\bar{3}xz^2)\right]^2$	$\frac{11}{4}x^4$
198	$5y\cdot[-0{,}5y^2\cdot(-5x^3)^2:(-5x^2)^3]-y^3\cdot[-0{,}\bar{2}x^2:(-0{,}\bar{3}x)^2]^2$	$-\frac{7}{2}y^3$
199	$-\frac{12}{5}a\left(-\frac{3}{4}a^2b^3\right)^2+\frac{2}{15}a^2\left(+\frac{3}{2}ab^2\right)^3-\left(-\frac{1}{5}a^5b^6\right)$	$-\frac{7}{10}a^5b^6$
200	$\left[\frac{2}{7}x^5y^7z^9:\left(\frac{3}{14}x^3y^5z^7\right)-\frac{1}{3}(-xyz)^2\right]^3:\left[x^2y^2z^7:\left(\frac{1}{7}x^2yz^6\right)\right]$	$\frac{1}{7}x^6y^5z^5$

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201	$(ab-2ab)^{10}\frac{1}{2}+\frac{1}{3}[3a^2b^2-2(ab)^2]^5-\left(-\frac{1}{2}ab^5\right)^2[(-a^2)^2]^2$	$\frac{7}{12}a^{10}b^{10}$
202	$\frac{1}{2}\{4a^2x^3y-3a[4a^5x^7y:(2a^4)x^4]\}^2:[2x(a^2x)^2-3a^4x^3]$	$-2x^3y^2$
203	$8y\left(-\frac{1}{2}b^3y^2\right)^3:[-by(-b^2)^2]+[(-2by)^3:(-4b)]^2$	$5b^4y^6$
204	$2a^2+[-5a^3b(-ab^3):(-ab)^2]^2:(-5ab^2)^2-(-3a)^2$	$-6a^2$
205	$\left[-2x\left(-\frac{1}{2}t\right)^2\right]^4:\left[(-t^2)^4\left(-\frac{3}{8}x^3\right)\right]+\frac{5}{2}x^3:(-x)^2$	$\frac{7}{3}x$
206	$(-ab)^5:\left\{[(-3a^2)^2(-b)^3]^2+(-3a^3b^3)^3:\left(\frac{1}{3}ab^3\right)\right\}^2$	*impossibile*
207	$[-4x^3y^3:(y-2y)^2]^2:[y(-2x)^2]+\left(-\frac{2}{3}x^2y\right)^3:\left(\frac{2}{3}xy-xy\right)^2$	$\frac{4}{3}x^4y$
208	$\left[-2ab^3\left(-\frac{1}{2}ax^4\right)+\frac{3}{5}a^2x^2\left(-\frac{5}{2}b^3x^2\right)\right]^3:\left[ab^3x^2+\frac{3}{4}b^2(-abx^2)\right]^2$	$-2a^4b^3x^8$
209	$\left[t-x\left(x+\frac{x}{3}\right)\left(x-\frac{x}{3}\right):\left(x+\frac{x}{3}\right)+\frac{2}{3}x^2\right]-\left[2\left(t-\frac{t}{2}\right)\right]^2$	0
210	$[(2ab^3)^2:(3ab)]:\left[0{,}5ab^3(abx)-\frac{1}{2}x(-ab^2)^2\right]^3$	*perde di significato*
211	$(-ac)^3:\left\{\left[-\frac{1}{5}bc\right]^2:b^2-\left(-\frac{3}{5}c\right)^2\right\}+\frac{3}{2}a^3c$	$\frac{37}{8}a^3c$
212	$\left[\left(-\frac{1}{4}x^2\right):\frac{1}{4}x\right]^2:(-2x)+(-2x^2)^2:(-3x^3)$	$-\frac{11}{6}x$
213	$\left[(ax^6y^8:axy^3)^3-\frac{1}{3}(ax^4y^5:ay)^3\left(\frac{1}{2}x^3y^3\right)\right]:\left(-\frac{5}{6}x^5y^5\right)$	$-x^{10}y^{10}$

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214	$\frac{1}{5}abm\left(\frac{1}{3}ab^3\right)^3+\frac{2}{3}b^2m\left(\frac{1}{2}a^2b^4\right)^2+\frac{1}{2}b^2m(ab^2)^4$	$\frac{91}{135}a^4b^{10}m$
215	$(3abc)^4[(2mnx)^3]^2+\frac{1}{5}a^4b^4x^6(5c^4m^6n^6)$	$5185a^4b^4c^4m^6n^6x^6$
216	$(-a^3b^5c^7)^3-\frac{8}{3}ab^3c\left(\frac{1}{2}a^2b^3c^5\right)^4+\frac{1}{2}a^3bc^6\left(\frac{1}{3}a^3bc^4\right)^5$	$-\frac{7}{6}a^9b^{15}c^{21}+\frac{1}{486}a^{18}b^6c^{26}$
217	$5a(-2ab)^3+2b\left(\frac{1}{2}a^2b\right)^2-(-2ab^2)^2-5a^2(-3b^2)^2$	$-\frac{79}{2}a^4b^3-49a^2b^4$
218	$(a^2b)^3(-2ab^2)^3-\left(\frac{1}{2}a^2b^2\right)^3(-2ab)^3+\left(\frac{3}{2}a^2b^2\right)^4\left(-\frac{4}{9}ab\right)$	$-\frac{37}{4}a^9b^9$
219	$\{(-a^mb^2)^2+a^{2m}b^8:(-b)^4\}(-a^mb^2)^2$	$2a^{4m}b^8$
220	$[x^my^2+x^{m-1}y(xy)]\left(x^m+\frac{1}{2}x^m\right):(-y^2)$	$-3x^{2m}$
221	$\frac{1}{18}x^n(-3x^{2n}y)^2-(-2x^n)^4\left(-\frac{1}{32}x^ny^2\right)-x^{2n}y(-x^{3n}y)$	$2x^{5n}y^2$
222	$[0,\bar{6}b(-a^{m+2})+0{,}5a^m(-a^2b)-2a^{m+1}b(-0,\bar{3}a)]^2$	$\frac{1}{4}a^{2m+4}b^2$
223	$\frac{2}{5}(-x^2)^2+y^3-\frac{1}{8}x^6:\left(-\frac{5}{4}x^2\right)+\frac{3}{2}x\left(-\frac{1}{6}x^3\right)-\frac{8}{15}y\left(\frac{5}{4}y^2\right)$	$\frac{1}{4}x^4+\frac{1}{3}y^3$
224	$\left[\left(\frac{1}{2}ab^2c^3\right)^2:\left(-\frac{3}{2}ab^2c^4\right)\right]3a+\left(-\frac{1}{2}abc\right)^2-a^2b^2c^2$	$-\frac{5}{4}a^2b^2c^2$
225	$4mn^2-(-5ab^3)+\left(-\frac{3}{4}\right)+(-9ab^3)-\left(-\frac{1}{2}\right)+(-3mn^2)+(-mn^2)$	$-4ab^3-\frac{1}{4}$
226	$\frac{1}{5}x^2y-\left(\frac{1}{3}x^2y^3\right)+\left(-\frac{3}{2}x^2y^3\right)-0,\bar{3}x^2y+\left(-\frac{1}{6}x^2y^3\right)-\left(-\frac{5}{6}x^2y\right)-\frac{1}{2}x^2y^3$	$\frac{7}{10}x^2y-\frac{5}{2}x^2y^3$

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227	$-(3a^2b+a^2b-5a^2b)+\frac{1}{2}-\left[a^2b-\left(-\frac{1}{4}a^2b+2a^2b-a^2b\right)\right]+2+\frac{1}{4}a^2b$	$\frac{5}{2}+a^2b$
228	$-\frac{1}{3}b^2-\left[-\left(-\frac{1}{2}ab\right)\right]-(-4a^2)-\left\{-\left[-\left(-\frac{1}{3}ab\right)-\frac{1}{2}b^2-\left(-\frac{1}{6}ab\right)-\left(-\frac{1}{2}b^2\right)\right]\right\}$	$4a^2-\frac{1}{3}b^2$
229	$2xy^nt^q-\left(+\frac{1}{2}xy^nt^q\right)-(+x^m)-\left(+\frac{5}{4}xy^nt^q+\frac{1}{4}xy^nt^q\right)+\left(+\frac{1}{2}x^m\right)$	$-\frac{1}{2}x^m$
230	$\frac{2}{5}a^2bc^3\left(+\frac{5}{4}ab^2c\right)-\frac{8}{3}ac^2\left(-\frac{1}{4}a^2b^3c^2\right)+7a^2b^2c^2\left(-\frac{1}{7}abc^2\right)$	$\frac{1}{6}a^3b^3c^4$
231	$-\frac{1}{4}x(-2xy)(-8y)-4xy(-xy)+(-2y)(-2x)-8\left(-\frac{1}{2}x\right)\left(-\frac{1}{2}y\right)$	$2xy$
232	$\left(-\frac{3}{4}xy\right)\left(2xy+\frac{1}{3}xy\right)-\left(\frac{1}{4}x-2x\right)\left(\frac{3}{7}xy^2-\frac{1}{2}xy^2\right)+\left(2x^2+\frac{1}{5}x^2\right)\left(-\frac{1}{6}y^2+y^2\right)$	$-\frac{1}{24}x^2y^2$
233	$\frac{1}{2}a^2b^2\left[-ab\left(-\frac{1}{2}a\right)+\frac{3}{5}a^2(-10b)\right]+\left(-\frac{7}{3}ab\right)\left(-\frac{5}{2}a^2b\right)\left(-\frac{1}{35}ab\right)-2a\left(\frac{5}{3}a^2b\right)\left(-\frac{9}{4}ab^2\right)$	$\frac{55}{12}a^4b^3$
234	$\left(+\frac{3}{2}ab\right)\left(+\frac{1}{2}a\right)+\left(-\frac{1}{3}ab\right)(2b)-2a^3b^2:(+3a^2)+\frac{5}{2}a^3b^2:(-3ab)$	$-\frac{4}{3}ab^2-\frac{1}{12}a^2b$
235	$\left(\frac{2}{5}x^4y^3-\frac{1}{2}x^4y^3\right)(-5xy):\left(-\frac{2}{3}x^4y^3\right)+\left(-\frac{4}{3}x^3y+\frac{3}{2}x^3y\right):\left(-\frac{1}{3}x^2\right)+\left(-\frac{1}{2}x\right)\left(\frac{2}{3}y-\frac{1}{2}y\right)$	$-\frac{4}{3}xy$
236	$-\frac{1}{3}x^3y^2:\left[-2xy\left(-\frac{1}{3}xy\right)+xy^2\left(-\frac{1}{2}x\right)\right]+\left(-\frac{5}{3}x^2y\right)(2x):\left(\frac{3}{2}x^2y\right)-\frac{4}{3}x^3:(-2x^2)\left(-\frac{1}{2}\right)$	$-\frac{41}{9}x$
237	$\left[\left(-\frac{5}{3}a^4bx^2\right):\left(-\frac{10}{3}a^4x^2\right)-\frac{1}{16}b^6:\left(-\frac{1}{32}b^5\right)\right]:\left[-\frac{1}{8}a^{12}b^6x^3:\left(-\frac{3}{4}a^{12}b^5x^3\right)\right]$	15
238	$\left[\left(-\frac{13}{2}ab+5ab\right)^3\left(\frac{13}{2}ab-5ab\right)^2:\left(-\frac{3}{2}ab\right)^4\right]\left(-\frac{1}{2}ab\right)-b^2\left(3a-\frac{1}{2}a\right)^2$	$-\frac{11}{2}a^2b^2$
239	$\frac{1}{3}b(a^3b)^2+\left(\frac{2}{3}xy^2\right)^3(a^2m)^3+\frac{2}{5}a^3\left(\frac{1}{3}ab\right)^3+\frac{1}{3}am^3x^3y(ay)^5$	$\frac{47}{135}a^6b^3+\frac{17}{27}a^6m^3x^3y^6$
240	$-2xy\left(-\frac{1}{3}x^2y\right)^2:(-6x^3y)-\{-[-x^2(-y)^2]^2\}^2:\left(-\frac{3}{2}x^2y^2\right)^3-\frac{1}{3}x^2y^2$	0

241	$[x^2y^3(-3xy^2)(+5xy) - 3x^3y^2(-xy^4)]:[-2x^3y(+7xy) + 10(-x^2y)^2]$	$3y^4$
242	$[4{,}5a^3b^2 \cdot (-0{,}\bar{3}a^2b)^2 + (-0{,}25ab^2) \cdot (-a^3b)^2]:\left[-ab \cdot \left(-\frac{1}{2}a^3b\right)^2\right]$	$-b$
243	$\left[\left(-\frac{1}{2}xy^2\right)^4 x^5y + \left(-\frac{1}{2}x^3y^3\right)^3 + (-x^2y)^3(-xy^2)^3\right]:\left[\left(-\frac{1}{4}x^3y^2\right)^2 - x^6y^4\right]$	$-x^3y^5$
244	$\left[(-a^2b)^3(-ab^2)^3 + \left(-\frac{1}{2}ab^2\right)^4 a^5b + \left(-\frac{1}{2}a^3b^3\right)^3\right]:\left[-\left(\frac{1}{4}a^2b^2\right)^2 + a^4b^4\right]$	a^5b^5
245	$25x^6y^4:(-10x^4y^3) - \left(-\frac{1}{2}xy^2\right)^2\left(\frac{1}{2}xy^2\right)^5:\left(\frac{1}{2}xy^2\right)^6 + \left(-\frac{3}{4}x^3y^2\right):\left(-\frac{1}{2}xy\right) + \frac{2}{3}x^2y - x\left(-\frac{1}{2}y^2\right) - \frac{1}{3}xy$	$-\frac{1}{3}x^2y - \frac{1}{3}xy^2$