Operazioni con i monomi
Polynomials: Combining "Like Terms"
Eléments du calcul littéral

=-=

Somma algebrica di monomi

1. $-4y^2+5y^2-15y^2=$

2. $2ab+b^2-ab-3b^2-3ab+b^2=$

3. $\frac{1}{2}a+2b+a-b=$

4. $7a-3b+5b-12a+4b+6a=$

5. $-4a+3b-a-2b+5a-4b=$

6. $-10xy+4y^2-7xy+11xy-3y^2-y^2=$

7. $-5x^2y+6x^2y-9xy^2+3x^2y-2xy^2=$

8. $6x^2y-9xy^2+3x^2y-5x^2y-2xy^2+9xy^2=$

9. $2xy^2+6x^2y+9xy^2+3x^2y-5x^2y-2xy^2-9xy^2=$

10. $\frac{1}{3}-2x+\frac{1}{3}y-\frac{7}{2}-\frac{1}{6}y+\frac{1}{4}x+\frac{19}{6}=$

11. $\frac{1}{5}x^2y^3-5x^2y^3-\frac{2}{3}x^2y^3+\frac{7}{15}x^2y^3+5x^3y^2=$

12. $-3x+(-7a)-(-2x)+(+5a)-(+8a)=$ (*)

13. $(8a^2b+3ab-b^2)+(10ab+5ab-8a^2b-5b^2-10ab)-(-3a^2b+8ab-3b^2)-3a^2b=$

14. $(8a^2b+3ab-b^2)-(2ab+5ab-8a^2b-5b^2-2ab)+(-3a^2b+8ab-3b^2)=$

15. $(-2a^2+5a-3b)-(-3b-2a^2)-(5a-6)=$

16. $\left(-\frac{1}{6}cx+\frac{1}{2}bx\right)+\left(\frac{3}{7}ax-\frac{2}{5}bx-\frac{1}{6}cx\right)-\left(\frac{1}{10}bx-\frac{1}{3}cx-\frac{4}{7}ax\right)=$

17. $y^2+3x^2-\left[5xy-\left(2x^3+10xy+3y^2\right)\right]-\left[2x^3-\left(-5xy+10x^3\right)\right]-4y^2-10x^3=$

18. $2x^3y^3+2+xy^3-6x^2y^3+3-xy^3+3x^2y^3-5+2x^2y^3-2x^3y^3=$

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Prodotto, divisione e potenze di monomi

19. $a \cdot a \cdot a =$

20. $a^2 \cdot a^2 \cdot a^2 =$

21. $(-12x^4y) \div (+6x^2) =$

22. $(-18x^6y^4z) \div (+6x^6y^2z) =$

23. $\left(-\frac{3}{4}x^3y\right) \cdot \left(-\frac{4}{7}xy^2\right) =$

24. $\left(+\frac{3}{4}x^3y^2z\right) \div \left(-\frac{9}{4}xy\right) =$

25. $\left(-\frac{3}{4}x^3y^2z\right) \cdot \left(+\frac{9}{4}xy\right) =$

26. $\left(\frac{21}{5}x^2y^4z\right) \cdot \left(\frac{15}{7}xy^2z\right) =$

27. $\left(\frac{21}{5}x^2y^4z\right) \div \left(-\frac{14}{5}xy^2z\right) =$

28. $\left(-\frac{4}{3}x^2\right) \cdot \left(\frac{2}{5}y\right) =$

29. $\left(-\frac{15}{2}x^3y^2z\right) : \left(-\frac{5}{4}xyz\right) =$

30. $5a^3b^2 : (-2ab) =$

31. $(+6a^5b^3c) \div (-3ab^4c^3) =$

32. $\left(-\frac{1}{2}ab^2c^3\right)^3 : \left(-\frac{3}{2}ab^3c^2\right)^2 =$ (*)

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Esercizi riassuntivi

33. $\left(x^3y^2-7x^3y^2+3x^3y^2\right)\div\left(5x^2y-2x^2y\right)=$

34. $\left[\frac{1}{2}a^6b^2\cdot\left(-\frac{1}{2}ab^2\right)+\frac{1}{4}a^4b^2\cdot\frac{2}{3}a^3b^2-2a^7b^4\right]:\left(-\frac{5}{2}a^2b^3\right)=$

35. $\left(-\frac{3}{4}a^2bc^3\right)\cdot\left(+\frac{10}{9}abc^2\right)-\left(\frac{5}{8}a^3c\right)\cdot\left(\frac{2}{5}b^2c^4\right)=$

36. $12x^3y^2:\left(-4xy^2\right)-2xy\cdot\left(-3xy^3\right)+\left(15x^2y\right):\left(3y\right)-6x^2y^4=$ (*)

37. $2x^4:\left(-\frac{2}{3}x^3\right)+\frac{4}{3}x^3y^2:\left(-\frac{1}{3}xy\right)^2+\left(-2xy\right)^2:\left(xy^2\right)=$ (*)

38. $\left[ab\cdot\left(\frac{1}{2}a^2b^3c^2\right)^2\right]^3:\left[-a\cdot\left(-\frac{1}{2}ab^2c\right)^2\right]^5+\frac{4}{3}a^2bc^6m^4:\left(-\frac{1}{3}a^2c^4m^4\right)=$ (*)

39. $\left[\left(-\frac{1}{3}x^2y^3z^4\right)^6\div\left(-\frac{1}{3}x^2y^3z^4\right)^2\right]^3\div\left[\left(-\frac{1}{3}x^2y^3z^4\right)^2\cdot\left(-\frac{1}{3}x^2y^3z^4\right)^3\right]^2-\frac{1}{3}x^4y^6z^8=$

40. $\left\{\left(-\frac{3}{4}xy^2\right)^5:\left[-\frac{3}{4}x^3y^3:x^2y\right]^2\right\}^3:\left(-\frac{3}{4}xy^2\right)^6=$

41. $\left\{-y^2-\left[\frac{1}{2}x^2-\left(\frac{3}{4}x^2-4y^2+xy\right)-\left(\frac{3}{2}xy-\frac{2}{3}x^2\right)\right]\right\}\cdot\frac{3}{5}=$

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Soluzioni esercizi di somma algebrica di monomi

$-4y^2+5y^2-15y^2=$ $=1y^2-15y^2=$ $=-14y^2$	$2ab+b^2-ab-3b^2-3ab+b^2=$ $=2ab-ab-3ab+b^2-3b^2+b^2=$ $=-2ab-b^2$

=-=

$\frac{1}{2}a+2b+a-b=$ $=\frac{1}{2}a+a+2b-b$ $=+\frac{3}{2}a+b$	(1/2)a + 2b + a – b = (1/2)a + 2b + a – b = (1/2)a + a + 2b – b = = (3/2)a + b

=-=

$7a-3b+5b-12a+4b+6a=$ $=7a-12a+6a-3b+5b+4b=$ $=-5a+6a+2b+4b=$ $=a+6b$	7a – 3b + 5b -12a + 4b + 6a = =7a – 3b + 5b - 12a + 4b + 6a = =7a - 12a + 6a – 3b + 5b + 4b = = (7-12+6)a + (–3+5+4)b = = a + 6b =

=-=

$-4a+3b-a-2b+5a-4b=$ $=-4a-a+5a-4b+3b-2b=$ $=-5a+5a-b-2b=$ $=-3b$	-4a + 3b – a – 2b + 5a – 4b = = -4a + 3b - a - 2b + 5a -4b = = -4a - a + 5a - 2b -4b + 3b = = (-4-1+5)a + (-2-4+3)b = = -3b

=-=

$-10xy+4y^2-7xy+11xy-3y^2-y^2=$ $=-10xy-7xy+11xy-3y^2-y^2+4y^2=$ $=-17xy+11xy-4y^2+4y^2=$ $=-6xy$	$-10xy+4y^2-7xy+11xy-3y^2-y^2=$ $=-10xy+4y^2-7xy+11xy-3y^2-y^2=$ $=-10xy-7xy+11xy+4y^2-3y^2-y^2=$ $=(-10-7+11)xy+(4-3-1)y^2=$ $=-6xy$

=-=

$-5x^2y+6x^2y-9xy^2+3x^2y-2xy^2=$	-5x²y+6x²y-9xy²+3x²y-2xy² =
$=-5x^2y+6x^2y+3x^2y-2xy^2-9xy^2=$	= -5x²y+6x²y-9xy²+3x²y-2xy² =
$=1^2y+3x^2y-11xy^2=$	= -5x²y+6x²y+3x²y-2xy² -9xy² =
$=4x^2y-11xy^2$	= (-5+6+3) x²y +(-2-9)xy² =
	= 4 x²y – 11 xy²=

=-

$6x^2y-9xy^2+3x^2y-5x^2y-2xy^2+9xy^2=$	6x²y-9xy²+3x²y-5x²y-2xy² +9xy²=
$=6x^2y+3x^2y-5x^2y-2xy^2+9xy^2-9xy^2=$	= 6x²y-9xy²+3x²y-5x²y-2xy² +9xy²=
$=9x^2y-5x^2y+7xy^2-9xy^2=$	= 6x²y+3x²y-5x²y +9xy²-2xy² -9xy²=
$=4x^2y-2xy^2$	= (6+3-5)x²y+(-9-2+9)xy² =
	= 4 x²y – 2 xy²=

=-

$2xy^2+6x^2y+9xy^2+3x^2y-5x^2y-2xy^2-9xy^2=$

$=2xy^2-2xy^2+9xy^2-9xy^2+6x^2y+3x^2y-5x^2y=$

$=9xy^2-5xy^2=$

$=4x^2y$

$2xy^2+6x^2y+9xy^2+3x^2y-5x^2y-2xy^2-9xy^2=$

$=2xy^2+6x^2y-9xy^2+3x^2y-5x^2y-2xy^2+9xy^2=$

$=6x^2y+3x^2y-5x^2y=$

$=(6+3-5)x^2y=$

$=4\ x^2y=$

=-

$xy+2xy^2+x^2y^2-3x^2y-2xy^2-xy^2+3x^2y-x^2y^2=$

$=xy+2xy^2-2xy^2-xy^2+x^2y^2-x^2y^2-3x^2y+3x^2y=$

$=xy-x^2y\quad=$

=-

$\frac{1}{3}-2x+\frac{1}{3}y-\frac{7}{2}-\frac{1}{6}y+\frac{1}{4}x+\frac{19}{6}=$

$=-2x+\frac{1}{4}x+\frac{1}{3}y-\frac{1}{6}y+\frac{19}{6}+\frac{1}{3}-\frac{7}{2}=$

$=\frac{-8+1}{4}x+\frac{2-1}{6}y+\frac{19+2-21}{6}=$

$=-\frac{7}{4}x+\frac{1}{6}y$

=-