ESERCIZI IN PIÙ

LE ESPRESSIONI CON I POLINOMI

Semplifica le seguenti espressioni.

1 $\left[\left(-\frac{1}{2}x\right)^3(-3xy^2)^2-\frac{7}{8}x(xy)^4\right]-\left\{(xy)^2\left[\frac{1}{3}x(-xy)^2+\frac{1}{4}x^3y^2\right]-\frac{5}{6}x^5y^4\right\}$ $\left[-\frac{7}{4}x^5y^4\right]$

2 $\left(\frac{1}{5}b^2\right)^3\left(-\frac{5}{2}a^2b\right)^2+\frac{1}{5}(-a^2b)^2(-b^3)^2+5b^2\left(\frac{1}{2}a^2b^3-\frac{1}{5}a^2b^3-\frac{1}{10}a^2b^3\right)^2-\left(\frac{1}{2}b^2\right)^3(2a^2b)^2$ $\left[-\frac{1}{20}a^4b^8\right]$

3 $\left\{\left(\frac{1}{2}x^2\right)^3[-4x(-y)^4:(-y^2)^2]^3\right\}^2:(-2x^3)^5+\left[\frac{1}{2}x^3y-(x^2y^2)^2:\left(+\frac{8}{3}xy^3\right)\right]+\left(-\frac{1}{2}x\right)^3(2+y)$ $\left[-\frac{9}{4}x^3\right]$

4 $[a-0,\overline{2}a^2:(-0,\overline{3}a)^2+0,\overline{6}(b+3)](a-b)+(-5a^2)^3:(-5a^3)^2(a-0,2b^2)+0,\overline{3}b(a-b)-a(a-5)$ [0]

5 $(a^2+1)\left[1-\frac{2}{3}a-\frac{5}{4}b\right]+2a^2\left(\frac{1}{3}a+b\right)-\frac{3}{4}a^2(b+4)+2\left(a^2+\frac{1}{3}a-\frac{1}{2}\right)+\frac{5}{4}b$ [0]

6 $a\cdot(a^3-1)-(a-1)[a^3(a+1)-a^4]-(a-1)^2(a+1)+(1-a)$ $[a^2-a]$

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

8 $\frac{4}{3}y^6-\left\{\left[\left(\frac{1}{3}xy^2\right)^2:\frac{1}{9}x^2\right]^3+3^2\left[\left(\frac{1}{12}x^6y^4\right):\left(-\frac{1}{4}x^6\right)\right]^3\right\}:\frac{y^6}{4}$ $\left[-\frac{4}{3}y^6\right]$

9 $\frac{2}{3}\left[\frac{9}{2}b-\frac{1}{4}ab-\left(\frac{3}{2}b\right)^2\right]-[-(2ab)^2:(2ab)]+\left(\frac{3}{2^3}b+\frac{7}{4}-\frac{1}{2}a\right)4b$ $\left[10b-\frac{1}{6}ab\right]$

10 $\dfrac{\left\{\left[\frac{1}{3}xy^2-\left(\frac{2}{3}xy\right)^2:\left(\frac{1}{3}x\right)\right]^3-\left(\frac{3}{2}xy^2\right)^2\cdot\frac{1}{3}xy^2\right\}^2}{\left[7xy^3\cdot\left(-\frac{1}{2}xy^2\right)^4\right]}$ $[7xy]$

11 $\left[\left(\frac{1}{5}ab^2\right)^3:\left(-\frac{1}{25}b\right)^2+\frac{5}{3}a^4\cdot(-b)^5\right]:(5b)^3-\frac{1}{5}a\left[\frac{1}{5}a^2b-(3a)^3\left(-\frac{1}{9}b\right)^2\right]$ $\left[\frac{4}{75}a^4b^2\right]$

12 $9(x^2y)^2+\frac{1}{4}x(xy+3y)-\frac{xy}{3}(3x+1)-x^2(3xy)^2$ $\left[-\frac{3}{4}x^2y+\frac{5}{12}xy\right]$

13 $\frac{1}{3}x\left(\frac{1}{2}+y-9x\right)+\frac{y}{2}\left(-\frac{2}{3}x+\frac{y^2x^3}{7}\right)+(2xy)^2+(xy)^2(xy-4)+x^2(y+3)$ $\left[\frac{1}{6}x+x^2y+\frac{15}{14}x^3y^3\right]$

14 $b^2\cdot\left(\frac{1}{3}a^2+b^3\right)\cdot(a^4b^2-1)-\frac{1}{12}(2a^3b^2)^2+b^2\left(\frac{ab}{3}\right)^2-a^2b^4\left(a^2b^3+\frac{1}{4}\right)$ $\left[-\frac{1}{3}a^2b^2-\frac{5}{36}a^2b^4-b^5\right]$

15 $(x^2-y^2)(x^4+y^4+x^2y^2)(x+1)-x^2(x^5+x^4+1)+y^2(y^4+xy^4+1)$ $[-x^2+y^2]$

16 $\left(\frac{1}{3}x^3y^2\right)^2-\left(\frac{1}{3}x^3y^2+3x\right)\left(\frac{1}{3}x^3y^2-3y\right)+xy(xy+3)(xy-3)-2(xy)^3$ $[-x^4y^2]$

17 $\frac{1}{2}(xy)^2\left(\frac{3}{4}x^3+\frac{x}{3}+\frac{1}{2}\right)-\left(\frac{xy}{2}+3\right)\left(\frac{xy}{2}-3\right)+\frac{x^2}{6}\left(\frac{xy^2}{2}-\frac{9}{4}x^3y^2\right)$ $\left[\frac{1}{4}x^3y^2+9\right]$

18 $\left(\frac{1}{6}x^2+xy\right)\left(-\frac{1}{9}x+\frac{2}{3}y\right)+\left(\frac{1}{7}xy-\frac{8}{3}y^2\right)(x-3y)+\frac{1}{2}\left(\frac{1}{3}x\right)^3-(2y)^3$ $\left[-\frac{17}{7}xy^2+\frac{1}{7}x^2y\right]$

19 $\frac{9}{2}x^6\left(\frac{1}{3}x^2y^4\right)^3-\left[\frac{4}{3}x^4y^6\left(\frac{1}{4}x^4y^3\right)^2+\frac{1}{6}y^6\left(\frac{1}{2}x^4y^2\right)^3\right]+(x^3y)^2$ $\left[\frac{1}{16}x^{12}y^{12}+x^6y^2\right]$

20 $(x+y)(x+y+1)(x+y-1)-(x+y)[x^2(x+2)-x^3-x^2]-(x+y)[y^2(y+2)-y^2-y^3]+$
$-(x+y)(2xy+1)$ $[-2x-2y]$