Simulazione di verifica

Periodo 1 - UdA 7-8

Risolvere le seguenti espressioni

1. $2x^2 + 2\left(x^3 - x^2 + 2x - 3\right) - 3x\left(x^2 + 1\right) + 6$
2. $\left(x + \frac{2}{3}\right)\left(\frac{3}{2}x - 1\right) - \frac{5}{6}$
3. $(x + 2)(2x - 3) + 2x^3 - \left(x^2 - x - 2\right)(2x + 3) - 9x$
4. $\left(\frac{1}{2}x^2 + \frac{1}{2}x + \frac{1}{2}\right)(2x - 2)$
5. $-\frac{2}{3}\left(\frac{3}{4}x^2 - \frac{1}{2}x - 1\right) + \frac{1}{3}x\left(-\frac{1}{2}x - 1\right)$
6. $\left(2x^2 - 4x + 1\right)\left(x^2 + 2x + 3\right) - 5 + x(x + 10)$
7. $\frac{1}{8}x^2 - \left(2x^2 - x + \frac{1}{2}\right)\left(\frac{1}{2}x + \frac{1}{4}\right) + x^3$
8. $\left(x^2 + \frac{1}{2}x - \frac{1}{3}\right)(2x - 1) + \left(\frac{7}{6}x - \frac{7}{3}\right)$
9. $\left(2x^2 - 3x + 1\right)\left(2x^2 + 3x\right) - 4x^2\left(x^2 - 1\right)$

Risolvere le seguenti equazioni

10. $-x\left(\frac{2}{3}x-\frac{1}{2}\right)+(x+1)\left(\frac{1}{3}x-1\right)=-\frac{1}{3}\left(x^2+3\right)$

11. $-\left(x^2-2x+3\right)(2x+1)=-2x\left(x^2+2\right)+3x^2$

12. $\frac{1}{3}x\left(-2x^2+\frac{1}{2}x+1\right)+\frac{2}{3}x^3=\frac{1}{6}\left(x^2+1\right)$

13. $\left(\frac{1}{2}x+\frac{2}{3}\right)\left(3x^2-4x\right)=\frac{3}{2}x^3+\frac{4}{9}$

14. $-\left(x+\frac{1}{2}\right)\left(x-\frac{1}{3}\right)+x^2=\frac{1}{3}(x+1)$

15. $\left(x^2-x+1\right)\left(2x^2+1\right)-x\left(2x^3-1\right)-3x^2(x+1)=-\left(5x^3-1\right)$

16. $(2x+1)(4x-3)-(x+1)(5x-4)+7=(x+1)(5x-3)-(2x+1)(x-3)$

17. $(2x+1)\left(x^2-2x-3\right)=x^2(2x-3)+x$

18. $(2x-3)(3x+1)+x=(x+1)(6x+5)-x$

SOLUZIONI

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[1] $-x^3+x$

[2] $\frac{3x^2-3}{2}$

[3] x^2-x

[4] x^3-1

[5] $\frac{-2x^2+2}{3}$

[6] $2x^4-2$

[7] $\frac{x^2-1}{8}$

[8] $2x^3-2$

[9] $-3x^2+3x$

[10] $x=0$

[11] *Impossibile*

[12] $x=\frac{1}{2}$

[13] $x=-\frac{1}{6}$

[14] $x=-\frac{1}{3}$

[15] *Indeterminata*

[16] $x=\frac{4}{5}$

[17] $x=-\frac{1}{3}$

[18] $x=-\frac{1}{2}$