

Equazioni a coefficienti frazionari

Periodo 1 - UdA 7-8

Risolvere le seguenti equazioni

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

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

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

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

$$5. \quad \left(\frac{1}{2}x^2 + x - 1\right) \left(x - \frac{1}{3}\right) = \frac{1}{2}x^3 + \frac{1}{3}x \left(\frac{5}{2}x - 1\right)$$

$$6. \quad \left(2x^2 + \frac{1}{2}x - 1\right) \left(-x + \frac{2}{3}\right) + \frac{2}{3} = \frac{1}{6}x (5x + 8) - 2x^3$$

$$7. \quad \frac{1}{2}x^3 - \left(x^2 + \frac{1}{2}\right) \left(\frac{1}{2}x - 2\right) = x \left(x - \frac{1}{4}\right) + x^2$$

$$8. \quad \left(x^2 - \frac{1}{3}x + \frac{2}{3}\right) \left(x^2 + \frac{1}{3}x + \frac{2}{3}\right) = \frac{1}{9}x^2 (9x^2 + 11) + \frac{2}{3} \left(x - \frac{1}{3}\right)$$

SOLUZIONI

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[1] $x = 0$

[2] $x = -\frac{8}{13}$

[3] $x = -\frac{4}{33}$

[4] $x = \frac{3}{2}$

[5] $x = \frac{1}{3}$

[6] *Indeterminata*

[7] *Impossibile*

[8] $x = 1$