

$$\frac{1}{9x^2 - 6x + 1} - \frac{2x - 1}{3x^2 + 5x - 2} = \frac{1}{4 + 2x}$$

C.E : $x \neq -2 \wedge$
 $x \neq \frac{1}{3}$

$$\frac{1}{(3x - 1)^2} - \frac{2x - 1}{(3x - 1)(x + 2)} - \frac{1}{2(2 + x)} = 0$$

$$\Delta = b^2 - 4ac$$

$$= 25 + 24 = 49$$

$$x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a}$$

$$= \frac{-5 \pm 7}{6} = \begin{cases} -2 \\ \frac{1}{3} \end{cases}$$

$$3 \cdot \left(x - \frac{1}{3}\right) (x + 2)$$

$$(3x - 1)(x + 2)$$

$$\frac{2x + 4 - 2(2x - 1) \cdot (3x - 1) - (3x - 1)^2}{2(3x - 1)^2(x + 2)} = 0$$

$$2x + 4 - 2(6x^2 - 2x - 3x + 1) - (9x^2 - 6x + 1) = 0$$

$$-x + 4 - 12x^2 + 4x + 6x - 2 - 9x^2 + 6x - 1 = 0$$

$$-21x^2 + 19x + 1 = 0$$

$$\Delta = b^2 - 4ac = 324 + 84 = 408$$

$$x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-19 \pm \sqrt{51 \cdot 2^3}}{-42} = \begin{cases} \frac{9 - \sqrt{202}}{21} \\ \frac{9 + \sqrt{202}}{21} \end{cases}$$

$$\frac{-18 \pm 2\sqrt{102}}{-42} = \frac{-9(9 \pm \sqrt{102})}{-42}$$

$$S = \left\{ \frac{9 - \sqrt{102}}{21}; \frac{9 + \sqrt{102}}{21} \right\}$$

$$\approx -0,05236$$

$$\approx 0,9095$$

$$X^3 - 4X = 0$$

$$X(X^2 - 4) = 0$$

$$X(X-2)(X+2) = 0$$

per la legge di annullam.
del prodotto si ottiene:

$$X=0 \vee X=2 \vee X=-2$$

$$S = \{-2; 0; 2\}$$

ho trovato tre soluzioni, come il grado dell'equazione

$$(3X-1)^2(4X+2) = 0 \quad \bar{e} \text{ di } \underline{3^\circ \text{ grado}}$$

Si applica SUBITO la legge di annullam.
del prodotto

$$(3X-1)^2 = 0 \vee 4X+2 = 0$$

⇓

$$3X-1 = 0 \text{ due volte}$$

⇓

$$X = \frac{1}{3} \text{ doppia}$$



$$4X+2 = 0$$

$$X = -\frac{1}{2}$$

$$S = \left\{ -\frac{1}{2}; \frac{1}{3} (\text{doppia}) \right\}$$

3 soluzioni

$$(3X-1)^2 = 4X+2 \quad \bar{e} \text{ di } 2^\circ \text{ grado}$$

$$9X^2 - 6X + 1 = 4X + 2$$

$$9X^2 - 10X - 1 = 0$$

$$\Delta = 100 + 36$$

$$X_{1,2} = \frac{10 \pm \sqrt{136}}{18} = \frac{10 \pm 2\sqrt{34}}{18} =$$

$$S = \left\{ \frac{5 - \sqrt{34}}{9}; \frac{5 + \sqrt{34}}{9} \right\}$$

$$= \frac{2(5 \pm \sqrt{34})}{18} = \frac{5 \pm \sqrt{34}}{9}$$