

Esercitazione sulle equazioni di secondo grado in R

Equazioni pure

1) $2x^2 - 8 = 0$

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

2) $x^2 + 6 = 0$

$S = \emptyset$

3) $(x-3)^2 - 6x = 10 - 12x$

$S = \{-1; 1\}$

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

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

5) $(3x+2)^2 - 12 = 12x$

$S = \left\{-\frac{2}{3}\sqrt{2}; \frac{2}{3}\sqrt{2}\right\}$

6) $(x-1)^2 - 2(x+1)^2 + 6x = 7$

$S = \emptyset$

Equazioni spurie

7) $5x^2 - 7x = 0$

$S = \left\{0; \frac{7}{5}\right\}$

8) $x(2x-1) = (5x-1)^2 - 1$

$S = \left\{0; \frac{9}{23}\right\}$

9) $(3-4x)(3+4x) - x(5x-6) = 9$

$S = \left\{0; \frac{2}{7}\right\}$

10) $x - \frac{1}{2}(x-2)^2 = \frac{1}{2}(x-4)$

$S = \{0; 5\}$

11) $3\left(x - \frac{1}{2}\right)^2 - 4x^2 = \frac{3}{4} - 5x$

$S = \{0; 2\}$

12) $(3x-2)(3x+2) = x(4x-5) - 4$

$S = \{-1; 0\}$

Equazioni complete

13) $2x^2 + x - 21 = 0$

$S = \left\{-\frac{7}{2}; 3\right\}$

14) $(3x-1)^2 + 5x(x-1) = 4$

$S = \left\{-\frac{3}{14}; 1\right\}$

15) $2x^2 + x - 10 = 0$

$S = \left\{-\frac{5}{2}; 2\right\}$

16) $(x-1)^2 + 7(x-1) - 8 = 0$

$S = \{-7; 2\}$

17) $x^2 - 5x - (2x-3)^2 = -5$

$S = \left\{1; \frac{4}{3}\right\}$

18) $8(x-1)^3 - 7x = (2x-1)^3 - 8$

$S = \left\{-\frac{1}{12}; 1\right\}$

$$19) (x-2)^3 - (x+1)^2(x-1) + 9(x-1) = 0$$

$$S = \left\{ \frac{8}{7}; 2 \right\}$$

$$20) (x-1)^3 - x(x+1)^2 + 4 = 0$$

$$S = \left\{ -\frac{3}{5}; 1 \right\}$$

$$21) 9(x-3)^3 - x(3x-1)^2 = -12(5x+1)$$

$$S = \left\{ \frac{77}{75}; 3 \right\}$$