Pag 944 n 384

$$\frac{x+1}{x+\sqrt{2}} + \frac{x^2-10\sqrt{2}}{x^2-2} + \frac{3-x}{x-\sqrt{2}} = 0$$

$(x-\sqrt{2})(x+\sqrt{2})$

C.E. $x \neq \pm\sqrt{2}$

$$\frac{x^2+x-\sqrt{2}x-\sqrt{2}+\cancel{x^2}-10\sqrt{2}+3x+3\sqrt{2}-\cancel{x^2}-\sqrt{2}x}{\cancel{(x-\sqrt{2})(x+\sqrt{2})}} = 0$$

$$x^2+4x-2\sqrt{2}x-8\sqrt{2}=0$$

$x(x+4)-2\sqrt{2}(x+4)=0$

$(x-2\sqrt{2})(x+4)=0$

$x = 2\sqrt{2},\ -4$ Accett.

$$x^2+2x(2-\sqrt{2})-8\sqrt{2}=0$$

$$\frac{\Delta}{4} = \left(\frac{b}{2}\right)^2 - ac = (2-\sqrt{2})^2+8\sqrt{2}$$

$$= 4+2-4\sqrt{2}+8\sqrt{2}$$

$$= 4+2+4\sqrt{2} = (2+\sqrt{2})^2$$

$$x_1/x_2 = \frac{-\frac{b}{2} \pm \sqrt{\frac{\Delta}{4}}}{a} = \frac{-2+\sqrt{2} \pm (2+\sqrt{2})}{1}$$

$+$ → $2\sqrt{2}$

$-$ → -4

455: $x^2+kx+k-1=0$

ax^2+bx+c

- Soluzioni reali: $\Delta \geq 0$

$\Delta = b^2-4ac$

$= k^2-4\cdot 1\cdot(k-1)$

$= k^2-4k+4 \geq 0$

$k^2-4k+4 \geq 0 \qquad (k-2)^2 \geq 0 \qquad \forall k \in \mathbb{R}$

$\boxed{\sqrt{\Delta} = |k-2|}$

- $3x_1+3x_2+x_1x_2+7=0$

Remind: $x_1+x_2 = -\frac{b}{a}$

$x_1x_2 = \frac{c}{a}$

$3(x_1+x_2)+x_1x_2+7=0$

$$3\left(-\frac{b}{a}\right)+\frac{c}{a}+7=0$$

$$3(-k)+(k-1)+7=0$$

$$-3k+k-1+7=0$$
$$-2k=-6$$
$$k=3$$

▷ Una soluzione è 0 . Determina l'altra $x^2+kx+k-1=0$
$(x_1=0)$

$$0+k\cdot 0+k-1=0 \rightsquigarrow k=1$$

$$\rightsquigarrow x^2+x=0 \rightsquigarrow x(x+1)=0 \qquad x=0\ ,\ -1$$

▷ Somma radici = prodotto :

$$x_1+x_2=x_1x_2 \rightsquigarrow -\frac{b}{\cancel{a}}=\frac{c}{\cancel{a}} \rightsquigarrow -b=c$$

$$-k=k-1 \rightsquigarrow 2k=1 \rightsquigarrow k=\frac{1}{2}$$

▷ Somma radici = quadrato del prodotto

$$x_1+x_2=(x_1x_2)^2 \qquad -\frac{b}{a}=\left(\frac{c}{a}\right)^2$$

$$-k=(k-1)^2$$
$$-k=k^2+1-2k$$

$$k^2-k+1=0 \qquad \Delta=b^2-4ac=1-4=-3$$
$$ak^2+bk+c=0$$

Impossibile