- Esempio1

$$\sqrt{3}\,senx cosx - cos^2 x = 0$$

$cosx(\sqrt{3}senx - cosx) = 0 \Rightarrow cosx = 0 \lor \sqrt{3}senx - cosx = 0$ e quindi
$cosx = 0 \Rightarrow \; x = 90° + k180°$
$\sqrt{3}\dfrac{senx}{cosx} - \dfrac{cosx}{cosx} = 0 \Rightarrow \sqrt{3}\,tgx - 1 = 0 \Rightarrow tgx = \dfrac{1}{\sqrt{3}} \Rightarrow x = 30° + k180°$
Quindi le soluzioni sono: $x = 90° + k180° \lor x = 30° + k180°$

- Esempio2

$$sen^2 x + (1 - \sqrt{3})senx\,cosx - \sqrt{3}\,cos^2 x = 0$$

$$\frac{sen^2 x}{cos^2 x} + (1 - \sqrt{3})\frac{senx\,cosx}{cos^2 x} - \sqrt{3}\frac{cos^2 x}{cos^2 x} = 0$$

$$tg^2 x + (1 - \sqrt{3})tgx - \sqrt{3} = 0$$
$$tgx = \frac{\sqrt{3} - 1 \pm \sqrt{1 + 3 - 2\sqrt{3} + 4\sqrt{3}}}{2} = \frac{\sqrt{3} - 1 \pm (1 + \sqrt{3})}{2} = \begin{matrix}\nearrow -1 \\ \searrow \sqrt{3}\end{matrix}$$
$$tgx = -1 \Rightarrow x = -\frac{\pi}{4} + k\pi$$
$$tgx = \sqrt{3} \Rightarrow x = \frac{\pi}{3} + k\pi$$

- Esempio3

$$3\,sen^2 x + 2senx\,cosx + cos^2 x = 3$$

$$3\,sen^2 x + 2senx\,cosx + cos^2 x = 3(sen^2 x + cos^2 x)$$

$$(3 - 3)\,sen^2 x + 2senx\,cosx + (1 - 3)\,cos^2 x = 0$$

$$2senx\,cosx - 2\,cos^2 x = 0$$

$$2cosx(senx - cosx) = 0$$

$$cosx = 0 \Rightarrow x = 90° + k180°$$

$$senx - cosx = 0 \Rightarrow \frac{senx}{cosx} - \frac{cosx}{cosx} = 0 \Rightarrow tgx = 1 \Rightarrow x = 45° + k180°$$