

$$\begin{array}{r}
 x^3 + 15x^2 + 71x + 105 \\
 -x^3 - 9x^2 - 26x - 24 \\
 \hline
 // \quad 6x^2 + 45x + 81
 \end{array}$$

$$\begin{array}{r}
 x^3 + 9x^2 + 26x + 24 \\
 \hline
 | \quad 1
 \end{array}$$

$$\begin{array}{r}
 x^3 + 9x^2 + 26x + 24 \\
 -x^3 - \frac{15}{2}x^2 - \frac{27}{2}x \\
 \hline
 // \quad \frac{3}{2}x^2 + \frac{25}{2}x + 24
 \end{array}$$

$$\begin{array}{r}
 6x^2 + 45x + 81 \\
 \hline
 | \quad \frac{x}{6} + \frac{1}{4}
 \end{array}$$

$$\begin{array}{r}
 // \quad \frac{3}{2}x^2 + \frac{25}{2}x + 24 \\
 -\frac{3}{2}x^2 - \frac{45}{4}x - \frac{81}{4} \\
 \hline
 // \quad \frac{5}{4}x + \frac{15}{4}
 \end{array}$$

$$// \quad \frac{5}{4}x + \frac{15}{4}$$

$$\begin{array}{r}
 \frac{5}{4}x + \frac{15}{4} \\
 \hline
 | \quad \frac{24}{5}x + \frac{108}{5}
 \end{array}$$

$$\begin{array}{r}
 6x^2 + 45x + 81 \\
 -6x^2 - 18x \\
 \hline
 // \quad 27x + 81
 \end{array}$$

$$\begin{array}{r}
 // \quad 27x + 81 \\
 -27x - 81 \\
 \hline
 //
 \end{array}$$

$$\boxed{x + 3}$$

Trovare il risultante di

$$x^3 + (\alpha+1)x + 12 = 0$$

$$\text{e } x^2 + \alpha = 0$$

$$\begin{array}{r} x^3 + (\alpha+1)x + 12 \\ -x^3 - \alpha x \\ \hline x + 12 \end{array} \quad \begin{array}{r} x^2 + \alpha \\ \hline x \end{array}$$

$$\begin{array}{r} x^2 + \alpha \\ -x^2 - 12x \\ \hline -12x + \alpha \\ +12x + 144 \\ \hline \end{array} \quad \begin{array}{r} x + 12 \\ \hline x - 12 \end{array}$$

~~$\alpha + 144$~~ ← Risultante

$\alpha = -144 \Leftrightarrow$ le due eq.
hanno una
radice comune

$$x^3 + (\alpha+1)x + 12 = 0 \quad x^2 + \alpha = 0$$

$$\left(\begin{array}{ccccc} 1 & 0 & (\alpha+1) & 12 & 0 \\ 0 & 1 & 0 & (\alpha+1) & 12 \\ 1 & 0 & \alpha & 0 & 0 \\ 0 & 1 & 0 & \alpha & 0 \\ 0 & 0 & 1 & 0 & \alpha \end{array} \right)$$