

$$\begin{array}{r}
 - \quad x^3 - 4x^2 + x + 6 \\
 \underline{x^3 + x^2}
 \end{array}$$

$$\begin{array}{r}
 - \quad 0 - 5x^2 + x + 6 \\
 \underline{-5x^2 - 5x}
 \end{array}$$

$$\begin{array}{r}
 - \quad 0 + 6x + 6 \\
 \underline{0 + 6x + 6}
 \end{array}$$

0

$$\begin{array}{r}
 \boxed{x + 1} \\
 \hline
 x^2 - 5x + 6
 \end{array}$$