

Check Your Understanding

Example 3 Given a polynomial and one of its factors, find the remaining factors of the polynomial.

4. $x^3 - 6x^2 + 11x - 6$; $x - 1$

$$\begin{array}{r} & 1 & \boxed{} & 11 & \boxed{} \\ \boxed{} & | & 1 & \boxed{} & 6 \\ \hline & \boxed{} & \boxed{} & 6 & \boxed{} \end{array}$$

Write the result in polynomial format

$$\boxed{}x^2 - 5x + \boxed{}$$

$$= (x \boxed{})(x \boxed{})$$

5. $x^3 + x^2 - 16x - 16$; $x + 1$

$$\begin{array}{r} & 1 & \boxed{} & \boxed{} & -16 \\ \boxed{} & | & \boxed{} & 0 & \boxed{} \\ \hline & 1 & 0 & \boxed{} & 0 \end{array}$$

Write the result in polynomial format

$$x^2 - \boxed{}$$

$$= (x \boxed{})(x \boxed{})$$