

$$\text{Ex: } (n^3 + 2n^2 - 5n + 12) \div (n+4)$$

$$\begin{array}{r} \boxed{n^2 - 2n + 3} \\ n+4 \overline{) n^3 + 2n^2 - 5n + 12} \\ \underline{-(n^3 + 4n^2)} \downarrow \\ -2n^2 - 5n \\ \underline{-(-2n^2 - 8n)} \\ 3n + 12 \\ \underline{-(3n + 12)} \\ 0 \end{array}$$