

$$\begin{array}{r}
 (x^3 + 2x^2 - 5x - 6) \div (x - 2) = x^2 + 4x + 3 \\
 \underline{-x^3 + 2x^2} \phantom{- 5x - 6} \\
 4x^2 - 5x \phantom{- 6} \\
 \underline{-4x^2 + 8x} \phantom{- 6} \\
 3x - 6 \\
 \underline{-3x + 6} \\
 0
 \end{array}$$