

$$f(x) = \underline{2x^3 - x^2 - 7x + 6}$$

$$\begin{aligned} & \pm \frac{\text{factors } 6}{\text{factors } 2} & \pm \frac{1, 2, 3, 6}{1, 2} & = \left( \begin{array}{l} 1, 2, 3, 6 \\ \textcircled{+} \left( \begin{array}{l} 1/2, 3/2 \end{array} \right) \end{array} \right) \end{aligned}$$

$$f(1) = 2 - 1 - 7 + 6 = 0 \quad \checkmark \quad (x-1)$$

$$f(2) = 2 \cdot 8 - 4 - 7 \cdot 2 + 6 \neq 0 \quad \bullet \quad = x^2 + x - 2$$

$$f(-1) = -2 - 1 + 7 + 6 \neq 0 \quad \ddot{\smile}$$

$$f(\underline{-2}) = -16 - 4 + 14 + 6 = 0 \quad (x+2)$$

$$\begin{aligned} & \underline{(2x^3 - x^2 - 7x + 6) : (x^2 + x - 2)} = \underline{\underline{2x + 3}} \\ & - (2x^3 + 2x^2 - 4x) \end{aligned}$$

$$\begin{aligned} & \underline{\underline{3x^2 - 3x + 6}} \\ & - (3x^2 + 3x - 6) \\ & \underline{\underline{0}} \end{aligned}$$

$$f(x) = (2x+3)(x+2)(x-1) \quad \text{☺}$$