

$$1. \text{ factor } f(x) = 3x^2 - 7x - 6 \\ = (3x+2)(x-3)$$

$$b) f(x) = 3x^5 + 4x^3 - 5x^2 + 7x - 4$$

$$P = \pm 1, 2, 4$$

$$Q = \pm 1, 3$$

$$= \pm 1, 2, 4, \frac{1}{3}, \frac{2}{3}, \frac{4}{3}$$

$$c) \frac{3x^2 + 4x - 5}{2x+1}$$

$$= \frac{3}{2}x + \frac{5}{4} - \frac{25}{4(2x+1)}$$

$$\begin{array}{r} \frac{3}{2}x + \frac{5}{4} \\ 2x+1 \overline{) 3x^2 + 4x - 5} \\ -) \quad 3x^2 + \frac{3}{2}x \\ \hline \frac{5}{2}x - 5 \\ \frac{5}{2}x + \frac{5}{4} \\ -) \quad \frac{5}{2}x + \frac{5}{4} \\ \hline -\frac{25}{4} \end{array}$$