

2.4.1

$$n) \frac{x^3 + x^2 - x - 1}{x^3 + 2x^2 - x - 2} = \frac{x^2(x+1) - 1(x+1)}{x^2(x+2) - 1(x+2)} = \frac{(x+1)\cancel{(x^2-1)}}{(x+2)\cancel{(x^2-1)}} \left( = \frac{(x+1)^2(x-1)}{\dots} \right)$$

$$= \frac{x+1}{x+2}$$

$$o) \frac{2x^3 + 9x^2 + 7x - 6}{2x^3 + x^2 - 13x + 6} = \frac{N(x)}{D(x)} = \frac{(x+2)\cancel{(2x^2+5x-3)}}{(x-2)\cancel{(2x^2+5x-3)}} = \frac{x+2}{x-2}$$

$N(x)$  : candidats :  $\pm 1, \pm 2, \pm 3, \pm 6$  (zéros possibles)

$$N(1) = 2 + 9 + 7 - 6 \neq 0$$

$$N(-1) = -2 + 9 - 7 - 6 \neq 0$$

$$N(-2) = -16 + 36 - 14 - 6 = 0 \quad \checkmark$$

Horner :

	2	9	7	-6
		+	+	+
-2		-4	-10	6
x	2	5	-3	0

$D(x)$  : candidats :  $\pm 1, \pm 2, \pm 3, \pm 6$

$$D(1) = 2 + 1 - 13 + 6 \neq 0$$

$$D(2) = 16 + 4 - 26 + 6 = 0 \quad \checkmark$$

Horner :

	2	1	-13	6
2		4	10	-6
x	2	5	-3	0