

Fracties rationnelles

(Fracties de polynômes)

$$\frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \dots$$

$$\frac{1}{2} \in \mathbb{R}$$

$$\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$$

$$\frac{1}{2} \cdot \frac{1}{3} = \frac{1}{6}$$

$$\frac{a}{b} \pm \frac{c}{d} = \frac{ad \pm bc}{bd}$$

$$\frac{a}{b} \cdot \frac{c}{d} = \frac{ac}{bd}$$

$$\frac{1}{\frac{2}{b}} = \frac{b}{2}$$

$$\frac{1}{2} + \frac{1}{4} = \frac{4 \cdot 1 + 1 \cdot 2}{2 \cdot 4} = \frac{6}{8} = \frac{3}{4}$$

$$\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$$

a, b, c et d peuvent être des polynômes

$$\frac{\overset{a}{1}}{\underset{b}{x}} + \frac{\overset{c}{1}}{\underset{d}{x+1}} = \frac{2x+1}{x^2+x} = \frac{2x+1}{x(x+1)}$$

$$\frac{ad+bc}{bd} = \frac{1 \cdot (x+1) + x \cdot 1}{x(x+1)}$$

$$\frac{A \cdot B}{A \cdot C} = \frac{B}{C}$$

$$\frac{x^2 + 2x + 1}{x^2 - 3x - 4} = \frac{\overset{A}{(x+1)} \cdot \overset{B}{(x+1)}}{\overset{A}{(x+1)} \cdot \overset{C}{(x-4)}}$$

$$\frac{2x}{3x} = \frac{2}{3}$$

$$\frac{x^2 - 3x \cdot y - 4}{x^3 - 7x \cdot y - 25} =$$

$$\frac{\boxed{m} \cdot x}{\boxed{n} \cdot x}$$

$$\frac{x \cdot (x - 3y) - 4}{x(x^2 - 7y) - 25}$$

$$\frac{2 \cdot 3 - 4}{2 \cdot 7 - 25}$$

$p(x)$ est un polynôme

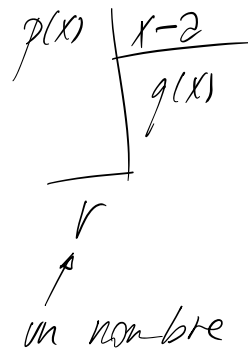
On divise $p(x)$ par $x-2$:

$$p(x) = q(x)(x-2) + r$$

Replaçons x par 2:

$$p(2) = \underbrace{q(2) \cdot (2-2)}_0 + r = r$$

$$\Rightarrow p(2) = r \Rightarrow (x-2) \mid p(x) \Leftrightarrow p(2) = 0$$



2.3.15 $P(5) = 0 \Rightarrow (x-5) \mid p(x)$

	2	-3	-35	-9	45
5		10	35	0	-45
	2	7	0	-9	0

$$P(x) = (x-5)(2x^3 + 7x^2 + 0x - 9)$$

	2	7	0	-9
-3		-6	-3	9
	2	1	-3	0

$$P(-3) = 0$$

$$P(x) = (x-5)(x+3)(2x^2+x-3)$$

```
i = 0
while i < 10:
    ## Tâche à accomplir
    i = i + 1    ## Tour suivant
    :
```

```
for i in range(10):
    ## Tâche à accomplir
```

