

Addition et soustraction d'expressions rationnelles

$$\frac{P}{Q} \pm \frac{S}{T} = \frac{P \cdot T}{Q \cdot T} \pm \frac{S \cdot Q}{T \cdot Q} = \frac{P \cdot T \pm S \cdot Q}{Q \cdot T}$$

$$\frac{P}{Q} \pm \frac{S}{T} = \frac{P \cdot T \pm Q \cdot S}{Q \cdot T}$$

Ex: Calculer et simplifier:

$$\frac{2x-1}{x+7} - 7$$

$$= \frac{2x-1}{x+7} - \frac{7}{1}$$

$$= \frac{(2x-1) \cdot 1 - (x+7) \cdot 7}{(x+7) \cdot 1}$$

$$= \frac{2x-1-7x-49}{x+7} = \frac{-5x-50}{x+7}$$

$$\text{Ex: } \frac{4}{x} + \frac{1}{x-2} - \frac{3}{x^2-2x}$$

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

$$= \frac{5x-8}{x(x-2)} - \frac{3}{x(x-2)}$$

$$= \frac{5x-8-3}{x(x-2)} = \frac{5x-11}{x(x-2)}$$

$$\text{Ex: } \frac{1}{x+2} + \frac{1}{x-2}$$

$$= \frac{1 \cdot (x-2) + 1 \cdot (x+2)}{(x+2)(x-2)}$$

$$= \frac{2x}{(x+2)(x-2)}$$