

Calculs sur les quotients - Corrigé

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

$$B = \frac{x}{x-3} - 1 = \frac{x}{x-3} - \frac{x-3}{x-3} = \frac{x-x+3}{x-3} = \frac{3}{x-3}$$

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

$$\begin{aligned} D &= \frac{3}{x-2} - \frac{2}{x+2} = \frac{3(x+2)}{(x-2)(x+2)} - \frac{2(x-2)}{(x+2)(x-2)} = \frac{3(x+2)-2(x-2)}{(x-2)(x+2)} \\ &= \frac{3x+6-2x+4}{(x-2)(x+2)} = \frac{x+10}{(x-2)(x+2)} \end{aligned}$$

$$\begin{aligned} E &= \frac{2}{x-3} - \frac{x+1}{x^2-9} = \frac{2}{x-3} - \frac{x+1}{(x-3)(x+3)} = \frac{2(x+3)}{(x-3)(x+3)} - \frac{x+1}{(x-3)(x+3)} \\ &= \frac{2x+6-x-1}{(x-3)(x+3)} = \frac{x+5}{(x-3)(x+3)} \end{aligned}$$

$$\begin{aligned} F &= \frac{x-3}{2x+1} - \frac{1-x}{6x+3} + 2 = \frac{x-3}{2x+1} - \frac{1-x}{3(2x+1)} + \frac{2}{1} = \frac{3(x-3)}{3(2x+1)} - \frac{1-x}{3(2x+1)} + \frac{2}{1} \\ &= \frac{3(x-3)}{6x+3} - \frac{1-x}{6x+3} + \frac{2(6x+3)}{6x+3} = \frac{3x-9-1+x+12x+6}{6x+3} = \frac{16x-4}{6x+3} \end{aligned}$$

$$\begin{aligned} G &= \frac{2}{x+4} + \frac{1+x}{x} - \frac{x^2-2}{x^2+4x} = \frac{2}{x+4} + \frac{1+x}{x} - \frac{x^2-2}{x(x+4)} \\ &= \frac{2x}{x(x+4)} + \frac{(1+x)(x+4)}{x(x+4)} - \frac{x^2-2}{x(x+4)} = \frac{2x+(x+4+x^2+4x)-(x^2-2)}{x(x+4)} \\ &= \frac{7x+6}{x(x+4)} \end{aligned}$$