CORRECCIÓN PRUEBA CORTA

Suma de fracciones algebraicas

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

(2) $\dfrac{x^3-5}{x^2-1}+\dfrac{2x-3}{x+1}=$

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

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

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

$= \frac{2x^2-3x+2x-3}{x^2-1} + \frac{2x-1}{x^2-1} = \boxed{\frac{2x^2+x-4}{x^2-1}}$

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

$= \frac{x^3-5+2x^2-2x-3x+3}{x^2-1} = \boxed{\frac{x^3+2x^2+5x-2}{x^2-1}}$

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

$= \frac{x^2+6x+9+x^2-9-x+2}{(x+3)^3} = \boxed{\frac{2x^2+5x+2}{(x+3)^3}} =$

$= \boxed{\frac{2x^2+5x+2}{x^3+9x^2+27x+27}}$

(4)

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

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

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

$= \boxed{\frac{-x^2-2x+2}{x^3+9x^2+27x+27}}$