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$$\left( \frac{5}{2x^2 - 2x - 12} - \frac{3}{2x^2 + 2x - 4} \right) : \frac{1}{x-3} + \frac{x^3 - 3x^2 + 3x - 2}{x-1} + x$$

$$2(x^2 - x - 6)$$

$$2(x-3)(x+2)$$

$$2(x^2 + x - 2)$$

$$2(x+2)(x-1)$$

$$2x^2 - 2x$$

$$(2x)$$

$$\frac{5x - 5 - 3(x-3)}{2(x+2)(x-3)(x-1)} \cdot (x-3) + \frac{\frac{2x+4}{2(x+2)}(x^3 - 3x^2 + 3x - 2) + x(2)(x-1)(x+2)}{2(x-1)(x+2)}$$

CF

$$x-3 \neq 0 \leadsto x \neq 3$$

$$x+2 \neq 0 \leadsto x \neq -2$$

$$x-1 \neq 0 \leadsto x \neq 1$$

$$\frac{5x - 5 - 3x + 9}{2(x+2)(x-1)} + \frac{1x^4 - 6x^3 + 6x^2 - 4x + 4x^3 - 12x^2 + 12x - 8 + 2x^3 + 4x^2 - 2x^2 - 4x}{2(x+2)(x-1)}$$

$$\frac{2x^4 - 4x^2 + 6x - 4}{2(x+2)(x-1)} = \frac{2(x^4 - 2x^2 + 3x - 2)}{2(x+2)(x-1)}$$

Ruffini:  $p(x) = x^4 - 2x^2 + 3x - 2$   $p(1) = 1 - 2 + 3 - 2 = 0$

	1	0	-2	3	-2
1		1	1	-1	2
	1	1	-1	2	0

$$p(x) = (x-1)(x^3 + x^2 - x + 2)$$

$$p(-2) = (-3)(-8 + 4 + 2 + 2) = 0$$

$$p(x) = (x-1)(x+2)(x^2 - x + 1)$$

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

$$x^2 - x + 1$$

	1	1	-1	2
-2		-2	2	-2
	1	-1	1	0