

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

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

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

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

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

$$= \frac{(x^3 + 6x^2 + 12x + 8) + (x^3 - 6x^2 + 12x - 8) - (2x)(x-2)(x+2)}{(x-2)^2(x+2)^2} =$$

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

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

$$= \frac{(x^3 + 6x^2 + 12x + 8) + (x^3 - 6x^2 + 12x - 8) - (2x^3 - 8x)}{(x-2)^2(x+2)^2} =$$

$$= \frac{x^3 + 6x^2 + 12x + 8 + x^3 - 6x^2 + 12x - 8 - 2x^3 + 8x}{(x-2)^2(x+2)^2} =$$

$$= \frac{32x}{(x-2)^2(x+2)^2} =$$