

Сначала упростим первую скобку

$$\begin{aligned}
 & \frac{4x^2+8}{x^4-2x^3+3x^2-4x+2} - \frac{4-x^2}{(x-1)^2} = \frac{4x^2+8}{x^4-2x^3+3x^2-4x+2} - \frac{-x^2+4}{(x-1)^2} = \\
 & = \frac{4x^2+8}{x^4-2x^3+3x^2-4x+2} + \frac{x^2-4}{(x-1)^2} = \frac{4(x^2+2)}{(x^2-2x+1)(x^2+2)} + \frac{x^2-4}{(x-1)^2} = \frac{4}{x^2-2x+1} + \frac{x^2-4}{(x-1)^2} = \\
 & = \frac{4}{(x-1)(x-1)} + \frac{x^2-4}{(x-1)^2} = \frac{4}{(x-1)^2} + \frac{x^2-4}{(x-1)^2} = \frac{4+(x^2-4)}{(x-1)^2} = \frac{4+x^2-4}{(x-1)^2} = \frac{x^2}{(x-1)^2}
 \end{aligned}$$

Теперь вторую

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

Теперь умножим результаты между собой

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