

$$\begin{aligned}\frac{-5x^4 + 25x^3 - 15x^2}{5x^2} &= -\frac{5x^4}{5x^2} + \frac{25x^3}{5x^2} - \frac{15x^2}{5x^2} \\ &= -\frac{5}{5}x^{4-2} + \frac{25}{5}x^{3-2} - \frac{15}{5}x^{2-2} \\ &= -1x^2 + 5x^1 - 3x^0 \\ &= -x^2 + 5x - 3 \cdot 1\end{aligned}$$