1st homework till 13th December

Solve:

1. $\dfrac{5x-4}{x-1} - \dfrac{x+6}{x+2} \geq 4$

2. $\dfrac{2x^2+5x-3}{(3-x)(x+3)^2} > 0$

3. $\dfrac{|x-2|+3}{4-|2x+8|} \geq -5$

4. $$\begin{aligned} 3x^2+3y^2-15 &= 0 \\ 6xy+6y &= 0 \end{aligned}$$

5. Divide polynomials:
   $\left(x^4-3x^3+3x^2-5x+2\right) : \left(x^2-1\right)$

6. Find roots and decompose (factor out the polynomial):
   $2x^5-3x^4-6x^3+9x^2-8x+12$