

Math 1121

Homework #2

33, 35

$$\begin{aligned} \underline{\# 33} \quad \lim_{x \rightarrow 1} \frac{5x^2 - 7x + 2}{x^2 - 1} &\rightarrow \frac{5 - 7 + 2}{1 - 1} = \frac{0}{0} \\ &= \lim_{x \rightarrow 1} \frac{(5x - 2)(\cancel{x - 1})}{(\cancel{x - 1})(x + 1)} = \lim_{x \rightarrow 1} \frac{5x - 2}{x + 1} = \frac{5 - 2}{1 + 1} \\ &= \underline{\underline{\frac{3}{2}}} \end{aligned}$$

$$\begin{aligned} \underline{\# 35} \quad \lim_{x \rightarrow -2} \frac{x^2 - x - 6}{x + 2} &\rightarrow \frac{(-2)^2 - (-2) - 6}{-2 + 2} = \frac{0}{0} \\ &= \lim_{x \rightarrow -2} \frac{(x - 3)(\cancel{x + 2})}{\cancel{x + 2}} = \lim_{x \rightarrow -2} x - 3 \\ &= -2 - 3 = \underline{\underline{-5}} \end{aligned}$$