# Revision

# P101 Rational Functions

Prescription in expressing $\frac{D(x)}{N(x)}$ in partial fractions:

(1) Check $\deg D(x)$ and $\deg N(x)$. If $\deg D(x) < \deg N(x)$, write down the form of the partial fractions, and find all the coefficients.

(2) If $\deg D(x) \geq \deg N(x)$, perform long division first to obtain the form $\text{Quotient} + \frac{\text{Remainder}}{N(x)}$, and then go back to step (1).

# ASSIGNMENT

Attempt all the questions in the following slides.

Assignment is to be submitted within **one week** after instruction!!!

Please write your name and your student's id in the script upon submission.

# CIE CAL MT P3 2004-06 Q9 (modified)

Let $f(x) = \dfrac{x^2 + 7x - 6}{(x-1)(x-2)(x+1)}$.

**(i)** Express $f(x)$ in partial fractions. [4]

# CIE CAL MT P3 2008-06 Q7 (modified)

Let $\mathrm{f}(x) \equiv \dfrac{x^2 + 3x + 3}{(x+1)(x+3)}$.

**(i)** Express $\mathrm{f}(x)$ in partial fractions. [5]

# Taylor's Trial CAL MT P3 2006-03 Q8 (modified)

Given that $f(x) = \dfrac{x}{(x-1)(x+2)}$

(i) Express f(x) in partial fractions. [4]