7 MUST KNOW QUESTIONS TO <u>CONQUER</u>

PARTIAL FRACTIONS

1	Express $\frac{3x^3+2x^2+4x-1}{x^3+x^2}$ in partial fractions. Ans: $3+\frac{5}{x}-\frac{1}{x^2}-\frac{6}{x+1}$
2	Express $\frac{8x^2-2x+19}{(1-x)(4+x^2)}$ in partial fractions. Ans: $\frac{5}{1-x}-\frac{3x+1}{4+x^2}$
3	Express $\frac{3x^3-5}{x^2-1}$ in partial fractions Ans: $3x+\frac{4}{x+1}-\frac{1}{x-1}$
4	(i) Factorise completely the cubic polynomial $2x^3-11x^2+12x+9$. (ii)Hence, express $\frac{6x^3-33x^2+35x+51}{2x^3-11x^2+12x+9}$ in partial fractions. Ans: (i) $(x-3)^2(2x+1)$ (ii) $3+\frac{2}{2x+1}-\frac{1}{x-3}+\frac{3}{(x-3)^2}$
5	Express $\frac{5x^3-x-6}{x^2-1}$ in the form $Ax+\frac{B}{x+1}+\frac{C}{x-1}$. Ans: $5x+\frac{5}{x+1}-\frac{1}{x-1}$
6	Express $\frac{20-3x-5x^2}{x^3-4x}$ in partial fractions. Answer: $\frac{20-3x-5x^2}{x(x^2-4)}=\frac{-5}{x}-\frac{3}{4(x-2)}+\frac{3}{4(x+2)}$
7	Express $\frac{x^2+4x+7}{(x-1)(x^2+2)}$ in partial fractions. Ans: $\frac{4}{x-1}-\frac{3x-1}{x^2+2}$