WWW.M4THS.COM
A LEVEL MATHS

(35) Algebraic Fractions

WORKING AT D/E

(1) Fully simplify $\frac{12x^4+4x^3+8x}{2x}$

(2) Show that $\frac{x^2+4x+4}{x+2}$ can be written as $ax + b$ where a and b are integers to be found.

(3) Show that $\frac{x^2-x-12}{x-4}$ simplifies to $x + 3$

WORKING AT B/C

(1) Fully simplify $\frac{6x^2+13x+2}{2x+4}$

(2) Show that $\frac{6x^2-6}{x^3-x}$ simplified to $\frac{A}{x}$ where A is an integer to be found.

(3) Alan simplifies the fraction $\frac{2x^2+x-15}{2x^2-13x+20}$ to $\frac{x+3}{x-4}$

(a) Is he correct? You give a reason.

(b) Beryl then suggests that he can simplify further by cancelling the x terms to give $\frac{3}{-4}$. Is Beryl right? You must give a reason for your answer.

WORKING AT A*/A

(1) Fully simplify $\frac{A^2x^4-B^2y^4}{Ax^2+By^2}$

(2) Fully simplify $\frac{144x^2-25x^4}{10x-24x^2}$

(3) Show that $\frac{(A+1)^{30}-(A+1)^{29}}{2A+2} \equiv \frac{A}{2}(A+1)^{28}$