**Further Algebra – 2021/20 GCE AS Pure Further Mathematics A**

1. Nov/2021/Paper_Y531/01/No.2

   The equation $2x^3 + 3x^2 - 2x + 5 = 0$ has roots $\alpha$, $\beta$ and $\gamma$.

   Use a substitution to find a cubic equation with integer coefficients whose roots are $\alpha + 1$, $\beta + 1$ and $\gamma + 1$. [4]

2. Nov/2021/Paper_Y531/01/No.3

   **In this question you must show detailed reasoning.**

   The equation $x^4 - 7x^3 - 2x^2 + 218x - 1428 = 0$ has a root $3 - 5i$.

   Find the other three roots of this equation. [6]

3. Nov/2020/Paper_Y531/01/No.5

   **In this question you must show detailed reasoning.**

   The cubic equation $5x^3 + 3x^2 - 4x + 7 = 0$ has roots $\alpha$, $\beta$ and $\gamma$.

   Find a cubic equation with integer coefficients whose roots are $\alpha + \beta$, $\beta + \gamma$ and $\gamma + \alpha$. [7]