Further Algebra – 2022 GCE Pure Core 2 Further Math A Y541

1. June/2022/Paper_ Y541/01/No.3

In this question you must show detailed reasoning.

The roots of the equation $4x^3 + 6x^2 - 3x + 9 = 0$ are α, β and γ.

Find a cubic equation with integer coefficients whose roots are $\alpha + \beta$, $\beta + \gamma$ and $\gamma + \alpha$. **[6]**