

2. The cubic equation

$$z^3 - 3z^2 + z + 5 = 0$$

has roots α , β and γ .

Without solving the equation, find the cubic equation whose roots are $(2\alpha + 1)$, $(2\beta + 1)$ and $(2\gamma + 1)$, giving your answer in the form $w^3 + pw^2 + qw + r = 0$, where p , q and r are integers to be found.

(5)