**4C Roots of Quartics**

Patterns spotted for polynomials in general:

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|  | Quadratics | Cubics | Quartics |
| Sum of ‘singles’ |  |  |  |
| Sum of ‘doubles’ |  |  |  |
| Sum of ‘triples’ |  |  |  |
| Sum of ‘quadruples’ |  |  |  |

1. The equation $x^{4}+2x^{3}+px^{2}+qx-60=0$, $x\in C$, $p,q\in R$,

has roots $α$, $β$, $γ$ and $δ$. Given that $γ=-2+4i$ and $δ=γ^{\*}$:

1. Show that $α+β-2=0$ and that $αβ+3=0$
2. Hence, find all the roots of the equation and the values of $p$ and $q$.