**4C Roots of Quartics**

Patterns spotted for polynomials in general:

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

1. The equation , , ,

has roots , , and . Given that and :

1. Show that and that
2. Hence, find all the roots of the equation and the values of and .