

M2P4 Rings and Fields Test 3.

15 March 2007

1. For which values of the integer n is $x^3 + nx - 9$ irreducible in $\mathbb{Q}[x]$?
2. Let $F = \{0, 1, \omega, \omega^2\}$ be the field of four elements. Factorize $x^3 + \omega x + \omega^2$ into irreducible factors in $F[x]$.