

Problem #8

April 21, 2012

Difficulty: hard
Prerequisite: High School Algebra

- (a) If α , β , and γ are the three roots of the polynomial $x^3 - x^2 + x - 2$, then what is the value of $\alpha^2 + \beta^2 + \gamma^2$?
- (b) Can α , β , and γ be all real numbers? Explain.