CLASSICAL AND LINEAR ALGEBRA
MATH 1210 (WINTER 2011) TUTORIAL 5

Q1. If $(1+i)$ is a zero of the polynomial

$$P(x) = 2x^4 - 6\,x^3 + 7x^2 - 2x - 2\,,$$

find its other zeros and write $P(x)$ as a product of its irreducible real factors.

Q2. Use Descartes' rules of signs to state the number of positive and negative zeros of the polynomial:

$$F(x) = 4x^5 + 3x^4 - 2x^3 + x^2 - x - 2$$

Q3. Find all zeros of the polynomial equation

$$P(x) = 4x^5 + 12x^4 + 22x^3 + 34x^2 + 30x + 10 = 0$$

Use all the knowledge that you have from chapter (2.2).