HOMEWORK 3

(1) Section 2.2, Problem 2.

(2) For a cubic polynomial $f(x) = x^3 + ax^2 + bx + c$ with roots α_1, α_2, and α_3, find a polynomial $g(x)$ with roots α_1^2, α_2^2, and α_3^2.

(3) For a cubic polynomial $f(x) = x^3 + ax^2 + bx + c$ with roots α_1, α_2, and α_3, find a polynomial $g(x)$ with roots $\alpha_1\alpha_2$, $\alpha_1\alpha_3$, and $\alpha_2\alpha_3$.

(4) Section 2.2, Problem 18 (feel free to use the Newton identities (2.22) on page 38.