

Problem 1. There are exactly three distinct complex numbers whose cube is 1. Find them.

Problem 2. Let $f(x) = 2x^3 - x^2 - 2x + 1$. Find the y -intercept and all x -intercepts of $f(x)$. Use this information to sketch the graph of $f(x)$.

Problem 3 (Extra Credit). Find all pairs of complex numbers (w, z) such that $w^2 + z^2 = -2$ and $z = w$.