Unit 4 Group Work 2
PCHA 2022-23 / Dr. Kessner

No calculator! Have fun!

3. Factor the following polynomial completely, both over $\mathbb{R}$ (as a product of real linear and irreducible quadratic factors) and over $\mathbb{C}$ (as a product of complex linear factors). Sketch the graph of the function.

$$p(x) = -2x^3 + 7x^2 + 17x - 10$$

4. Factor the following polynomial completely, both over $\mathbb{R}$ (as a product of real linear and irreducible quadratic factors) and over $\mathbb{C}$ (as a product of complex linear factors). Sketch the graph of the function. A little bird tells you that $2 + 3i$ is a zero.

$$q(x) = x^4 - 4x^3 + 10x^2 + 12x - 39$$

5. Sketch the graph of the following rational function:

$$r(x) = \frac{x^2 - 3x + 2}{(x^2 - 4x + 4)(x - 3)}$$