Retake 7B: Polynomials

MATH 1110, FALL 2017

NAME:

1. Find $(x^3 + 1) \div (x - 1)$. Remember to include the remainder term in your answer, if needed.

2. Consider the polynomial function.

$$f(x) = -x^4 - x^3 + x^2 + x$$

(a) Give the degree and the leading term.

(b) Factor the polynomial and give all its zeros. In addition, give the multiplicity for each zero that you identify.

(c) Calculate the coordinates of one test point in between each pair of zeros you found on part (b).

(d) Graph the polynomial.