

# Retake 7A: 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.

