Finding the Complex Zeros of a Polynomial

Name _____

Date _____ Period _____

Fundamental Theorem of Algebra

Every polynomial of degree $n \geq 1$, has exactly n zeros.

Determine the number of zeros the following polynomials have.

$f(x) = x^4 + 3x^2 + 4x - 1$

$f(x) = 3x^5 - 3x^2 + 5x + 4$

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

Find all the zeros of the following polynomial

$$P(x) = x^4 - 3x^2 - 4$$

Find all the zeros of the following polynomial

$$P(x) = x^4 + 2x^3 + 22x^2 + 50x - 75$$

Find all the zeros of the following polynomial

$$P(x) = x^3 - 8x^2 + 25x - 26$$