

Advanced Algebra

Polynomial Functions: Finding the Roots of Polynomials – HW #1

- 1) Write a polynomial of the least possible degree with integer coefficients that has zeros at  $x = 2, -1$  and  $\frac{1}{2}$ .

*For the polynomial functions listed below:*

- a. list the number of *possible* positive real roots negative real roots and imaginary roots
  - b. list all the *possible* rational roots
  - c. find all the roots of the polynomial
- 2)  $2x^3 + 11x^2 + 12x - 9$
  - 3)  $2x^4 + 9x^3 + 13x^2 + 8x + 4$