

Names: \_\_\_\_\_

**Activity #4: Polynomials 2**

**College Algebra**

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1. Find the list of candidate roots of the polynomial

$$p(x) = 3x^3 + x^2 - 5x + 6$$

given by the Rational Root Theorem. **Do not factor.**

2. Factor the following polynomial.

$$p(x) = 4x^4 - 8x^3 - 7x^2 + 11x + 6$$

3. Factor the following polynomial.

$$p(x) = 6x^5 - 7x^4 - 16x^3 + 9x^2 + 8x - 4$$

4. Factor the following polynomial.

$$p(x) = 36x^7 - 36x^6 - 217x^5 + 299x^4 + 65x^3 - 175x^2 + 8x + 20$$

Hint: Draw a graph of  $p$  using a computer or calculator.