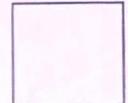


Name: \_\_\_\_\_

**Unit 3:** Power, Polynomials, and  
Rational Functions



Date: \_\_\_\_\_ Per: \_\_\_\_\_

**Homework 7:** The Rational Zero Theorem

\*\* This is a 2-page document! \*\*

**Directions:** List all possible rational zeros of each function.

1.  $f(x) = x^3 - 5x^2 - 7x + 15$

2.  $f(x) = x^4 + 8x^3 + 11x^2 - 9x + 28$

3.  $f(x) = x^4 - 3x^2 + 4x - 12$

4.  $f(x) = 2x^3 + 5x^2 - x + 18$

5.  $f(x) = 3x^4 - 6x^3 + 4x + 24$

6.  $f(x) = 4x^5 + 2x^4 - 18x - 32$

**Directions:** List all possible rational zeros. Then, find the actual zeros.

7.  $f(x) = x^3 + 2x^2 - 11x - 12$

8.  $f(x) = x^3 - x^2 - 25x + 25$

$$9. f(x) = 2x^3 + 7x^2 - 17x - 10$$

$$10. f(x) = 2x^4 - x^3 - 11x^2 + 4x + 12$$

$$11. f(x) = 6x^4 - 7x^3 - 9x^2 + 7x + 3$$

$$12. f(x) = 2x^4 + 15x^3 + 31x^2 - 3x - 45$$

$$13. f(x) = 4x^4 + 12x^3 + 7x^2 - 3x - 2$$