

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