

## Rational Roots Theorem and Factoring/Solving 3

Date \_\_\_\_\_ Period \_\_\_\_\_

**State the possible rational zeros for each function. Then factor each and find all zeros.**

1)  $f(x) = 5x^3 - 11x^2 + 7x - 1$

2)  $f(x) = 3x^3 + 11x^2 + 5x - 3$

3)  $f(x) = 2x^3 + 9x^2 - 2x - 33$

4)  $f(x) = x^3 - 3x^2 - 14x + 12$

5)  $f(x) = 2x^3 - 23x^2 - 16x - 2$

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

7)  $f(x) = x^3 - x^2 - 15x - 18$

8)  $f(x) = x^3 + 9x^2 - 21x - 2$

9)  $f(x) = 5x^4 + 9x^3 + 3x^2 - x$

10)  $f(x) = x^4 + 6x^3 + 6x^2 - 4x$

11)  $f(x) = 2x^5 - 4x^4 - 7x^3 + 14x^2 + 6x - 12$

12)  $f(x) = 5x^5 - 15x^4 - 4x^3 + 12x^2 - 9x + 27$