Pre-Calculus/Trig 3 Name: _____
UNIT 2: Polynomial Functions – SECTION 4 WORKSHEET Date: _____

RATIONAL ROOT TEST

Directions: State the possible rational zeros for each function. You do NOT have to find all zeros, just *possible* zeros!

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

2.) $f(x) = x^6 - 64$

3.) $f(x) = x^2 + 8x + 10$

4.) $f(x) = 5x^3 - 2x^2 + 20x - 8$

5.) $f(x) = 4x^5 - 2x^4 + 30x^3 - 15x^2 + 50x - 25$

6.) $f(x) = 5x^4 + 32x^2 - 21$

7.) $f(x) = x^3 - 27$

8.) $f(x) = 2x^4 - 9x^2 + 7$

Directions: State the possible rational zeros for each function. Then find all zeros. Be sure state if zeros have multiplicity.

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

10.) $f(x) = x^3 - 13x^2 + 23x - 11$

ZEROS: _____

ZEROS: _____

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

12.) $f(x) = 5x^3 + 29x^2 + 19x - 5$

ZEROS: _____

ZEROS: _____

13.) $f(x) = 4x^3 - 9x^2 + 6x - 1$

ZEROS: _____

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

ZEROS: _____

15.) $f(x) = 5x^4 - 46x^3 + 84x^2 - 50x + 7$

ZEROS: _____

16.) $f(x) = 3x^4 - 10x^3 - 24x^2 - 6x + 5$

ZEROS: _____

CHALLENGE

17.) $f(x) = 3x^3 + 9x^2 + 4x + 12$

ZEROS: _____

18.) $f(x) = 2x^3 + 9x^2 + 19x + 15$

ZEROS: _____