

Name: _____

Zeros of Polynomial Functions

Exercise 1: Use the Rational Zero Test to list all possible rational zeros

1) $f(x) = 27x^5 + x^4 - 54$

2) $f(x) = 16x^4 + 5x - 1$

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

4) $f(x) = 24x^5 - 98$

5) $f(x) = x^5 - 4x^4 - 75$

6) $f(x) = 32x^7 - 8x - 144$

7) $f(x) = 64x^6 + 6x^2 + 23x - 12$

8) $f(x) = 6x^5 + 4x^4 - x^3 + x^2 + 3x - 24$

9) $f(x) = 2x^6 + 5x^4 - 14x^2 + 12x + 10$

10) $f(x) = 15x^7 + 5x^4 - 14x^2 + 12x + 60$

Exercise 2: Find the real zeros of each function

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

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

3) $f(x) = 6x^4 + x^3 - 17x^2 - 16x - 4$

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

5) $f(x) = x^4 + 4x^3 - x^2 - 16x - 12$

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