6-6 / 6-7 Finding Zeros of Polynomial Functions

Rational Zeros Theorem : *If a polynomial function f(x) has integer coefficients, then every rational zero of f(x) has the form* $\frac{p}{q}$ *where* $\frac{p}{q} = \frac{\pm(\text{factors of constant term})}{\pm(\text{factors of leading coefficient})}$

ex. 1 Find the possible rational zeros of

$$f(x) = 3x^3 + 2x^2 - x + 15$$

ex. 2 Find all zeros of $f(x) = 3x^4 + 11x^3 + 11x^2 + x - 2$

ex. 3

Find all zeros of $f(x) = 3x^4 - 17x^3 + 33x^2 - 17x - 10$