

SECTION 4.6: FUNDAMENTAL THEOREM OF ALGEBRA

Homework: _____

Learning Targets:

- 4c. Factor polynomial functions by graphing, grouping, and quadratic techniques.
- 4d. Solve polynomial functions by graphing and factoring.

Degree & Number of Zero: The _____ is the number of _____

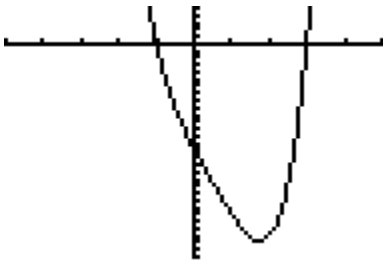
$$y = 3x^4 - 3x^2 + 5$$

$$y = 2x^2 + 5x^5 - 3x^2$$

Types of Solutions: When a graph _____ the x-axis (_____) it is a _____ solution. If you don't have enough real solutions, then there are _____ solutions, which come as _____ solutions

Determine the number of imaginary solutions. Find the solutions.

$$f(x) = x^4 - 2x^3 + 2x^2 - 10x - 15$$



Writing equations given the zeros: Plug the zeros into _____ (remember that they are the _____). If you have an imaginary, then you need to have a _____ and _____ imaginary. Once you find your factors, you multiply them and _____ like terms.

Determine the function, given the zeros

2, -3, 1