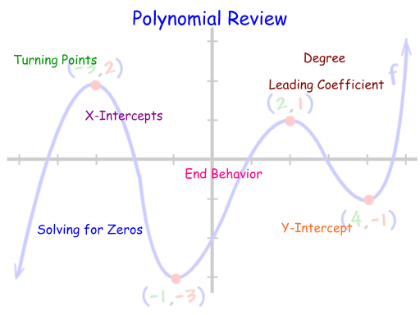
Module 2 Lesson 5:

Solving Polynomials of Higher Degrees



Learning Targets:

I can use polynomial reverse tabular and synthetic division to find the solutions of a polynomial function.

I can find all of the solutions of higher degree polynomial functions algebraically.

I can sketch the graphs of polynomial functions using the roots, y-intercept, and end behavior.

Sketch the graph of .

Roots:

y-int:

End Behavior:

Can we approach sketching the same way? Explain:

What if you are told that (x – 3) is a factor of . Find the remaining roots, find the y-intercept, and state the behavior.

***Example 2***: Find the all of the solutions of the polynomial function provided that is a factor.

***Example 3:*** Find all of the solutions to the polynomial provided that x = -3 is a root with a multiplicity of 2.

***Example 4:*** Given the polynomial

1. Write the polynomial in factored form, provided that is a factor of
2. State all of the solutions of
3. State the end behavior of the polynomial.
4. Sketch the function.

HW/Practice:

Find all of the solutions to each of the following polynomials and sketch the graph.

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|  |  |

Find the solutions to each of the following polynomials.

|  |
| --- |
| given is a factor. |
| given is a root. |
| given is a factor. |