

Figure 8.19. Beyond Linear: Working with Polynomials Lesson Plan –Day 1

Date: 10/24

Standards:

Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Use the structure of an expression to identify ways to rewrite it.

K: Vocabulary: degree, end behaviors, polynomial and polynomial functions, relative (local) maximums and minimums, repeated (finite) differences
Determining degree of polynomial, and polynomial equation from a table of values

U: Polynomials are very similar to integers. Arithmetic with polynomials works in the same ways as arithmetic with integers. They are closed in addition, subtraction, and multiplication, just as are integers. (Algebra is grown up arithmetic.)

D: Identify polynomials and polynomial functions.

Highlighted Standards for Mathematical Practice:

SMP1: Make sense of problems and persevere in solving them

SMP2: Reason abstractly and quantitatively

SMP7: Look for and make use of structure.

SMP8: Look for and express regularity in repeated reasoning.

Whole Class:

1. Concept Attainment activity on “Are” and “Are Not” polygons
2. “Make three statements you can conclude about polygons”
3. Reinforce vocabulary – polynomial, degree, function
4. A cool new identifier for a polynomial function – examine tables and differences
5. Review tasks and have students find partners within their chosen tasks (encourage students to “go for it” as needed).

Paired activity based on tiered tasks:

- Cut the Cake
- Trying Tables
- Polynomial or Not?

Exit card: How can you determine from a table of values if a function is a polynomial function or not? How can you determine the degree of the function if it is polynomial?

Individual / formative assessment: Activity sheet, Exit card

