Unit #6: Polynomials

Content Area: **Math**
Course(s):
Time Period:
Length: **6 Days**
Status: **Published**

State Mandated Topics Addressed in this Unit

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N/A	N/A

Polynomials

Learning Objectives

- Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
- Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret P(1+r)n as the product of P and a factor not depending on P
- Interpret expressions that represent a quantity in terms of its context.
- Interpret expressions that represent a quantity in terms of its context.
- Interpret parts of an expression, such as terms, factors, and coefficients.
- 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 process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
- Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

Essential Skills

- Essential Skill 1 - Artists will be able to interpret parts of expressions including terms, factors, and coefficients.
- Essential Skill 10 - Artists will be able to interpret parts of an expression in context, such as terms, factors, and coefficients.
- Essential Skill 11 - Artists will be able to interpret complicated expressions by viewing its parts as a single entity
- Essential Skill 2 - Artists will be able to interpret expressions in terms of context.
- Essential Skill 3 - Artists will be able to understand polynomials are closed under addition, subtraction,

and multiplication.

- Essential Skill 4 - Artists will be able to identify zeros of polynomials using factoring.
- Essential Skill 5 - Artists will be able to use the zeros to construct a rough graph of a polynomial function.
- Essential Skill 6 - Artists will be able to write a function shown as an expression in equivalent forms
- Essential Skill 7 - Artists will be able to reveal different properties of a function by expressing it in different forms
- Essential Skill 8 - Artists will be able to use factoring and completing the square on quadratic functions to show zeroes, extreme, values, and symmetry
- Essential Skill 9 - Artists will be able to interpret zeroes, extreme values, and symmetry of a quadratic in context

Standards

MATH.9-12.A.APR.A.1	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.
MATH.9-12.A.APR.B.3	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
MATH.9-12.F.IF.C.8.a	Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
MATH.9-12.A.SSE.A.1.a	Interpret parts of an expression, such as terms, factors, and coefficients.
MATH.9-12.A.SSE.A.1.b	Interpret complicated expressions by viewing one or more of their parts as a single entity.

Instructional Tasks/Activities

- Academic games
- Independent practice
- Ladder Activity
- Notes
- Ti-Nspire activities
- Worksheets

Assessment Procedure

- Class discussions
- Classroom Total Participation Technique
- Classwork/homework
- DBQ
- Electronic active responders
- Essay

- Exit Ticket/Entrance Ticket/Do Now
- Identify the error problems
- Journal / Student Reflection
- Kahoot
- Other named in lesson
- Peer Review
- Performance
- Problem Correction
- Project
- Quiz
- Quizzes/tests
- Response and analysis questions
- Rubric
- Teacher Collected Data
- Teacher observations
- Test
- Worksheet

Recommended Technology Activities

- Appropriate Content Specific Online Resource
- Chromebook
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Gimkit
- GoGuardian
- Google Classroom
- Google Docs
- Google Forms
- Google Slides
- Kahoot
- MagicSchool AI
- Other- Specified in Lesson
- Power Point
- Quizizz
- Screencastify
- TI-Nspire CX-Cas activities throughout the unit as appropriate

Accommodations & Modifications & Differentiation

Accommodations and Modifications should be used to meet individual needs. Their IEP and 504 plans should be used in addition to the following suggestions.

Special Education

Modifications and accommodations to this unit will be based on individual IEP needs and through the collaboration of the classroom teacher and the special education teacher under the direction of the Supervisor of Special Education.

Gifted and Talented

- Compare & Contrast
- Conferencing
- Debates
- Jigsaw
- Peer Partner Learning
- Problem Solving
- Structured Controversy
- Think, Pair, Share
- Tutorial Groups

Instruction/Materials

- alter format of materials (type/highlight, etc.)
- color code materials
- eliminate answers
- extended time
- large print
- modified quiz
- modified test
- Modify Assignments as Needed
- Modify/Repeat/Model directions
- necessary assignments only
- Other (specify in plans)
- other- named in lesson

- provide assistance and cues for transitions
- provide daily assignment list
- read class materials orally
- reduce work load
- shorten assignments
- study guide/outline
- utilize multi-sensory modes to reinforce instruction

Environment

- alter physical room environment
- assign peer tutors/work buddies/note takers
- assign preferential seating
- individualized instruction/small group
- modify student schedule (Describe)
- other- please specify in plans
- provide desktop list/formula

Honors Modifications

Resources

- https://curriculum.newvisions.org/math/course/algebra-ii/
- www.Khanacademy.com