Unit #12: Radicals

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

Radicals

Learning Objectives

• Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.

• For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

• Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

• Simplify radicals, including algebraic radicals (e.g. 3^√54=3*3^√2, simplify √32x^2)

• Use the properties of exponents to transform expressions for exponential functions. For example, the expression 1.15t can be rewritten as (1.151/12)12t ≈1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.

Essential Skills

• Essential Skill 1 - Artists will be able to Simplify radicals, including algebraic radicals.

• Essential Skill 2 - Artists will be able to choose an equivalent form of an expression.

• Essential Skill 3 - Artists will be able to produce an equivalent form of an expression.

• Essential Skill 4 - Artists will be able to explain the properties of the quantity represented by an expression.

• Essential Skill 5 - Artists will be able to explain the properties of the quantity represented by an expression.

• Essential Skill 6 - Artists will be able to transform exponential functions using the properties of exponents.

• Essential Skill 7 - Artists will be able to sketch a graph using the key features of a function.

- Essential Skill 8 - Artists will be able to interpret key features from a graph or a table of values.

- Essential Skill 9 - Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

Standards

MATH.9-12.N.RN.A.3	Simplify radicals, including algebraic radicals (e.g., $\sqrt[3]{54} = 3\sqrt[3]{2}$, simplify $\sqrt{32x^2}$).
MATH.9-12.F.IF.B.4	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.
MATH.9-12.A.SSE.B.3.c	Use the properties of exponents to transform expressions for exponential functions.

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
- Quiziz
- 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