Unit #8: Solving Quadratics

Content Area: **Math**
Course(s):
Time Period:
Length: **5 Days**
Status: **Published**

State Mandated Topics Addressed in this Unit

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N/A	N/A

Solving Quadratics

Learning Objectives

- Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
- choose and interpret the scale and the origin in graphs and data displays.
- choose and interpret units consistently in formulas.
- Solve quadratic equations in one variable.
- Use the method of completing the square to transform any quadratic equation in x into an equation of the form (x – p) 2 = q that has the same solutions. Derive the quadratic formula from this form.
- Use units as a way to understand problems and to guide the solution of multi-step problems.

Essential Skills

- Essential Skill 1 - Artists will be able to apply scales to graphs, origin of graph and data displays.
- Essential Skill 10 - Artists will be able to use completing the square to transform quadratic equations into the form (x-p)^2=q.
- Essential Skill 2 - Artists will be able to use units to make sense of solutions.
- Essential Skill 3 - Artists will be able to apply scales to multi-step problems and formulas.
- Essential Skill 4 - Artists will be able to interpret units in formulas.
- Essential Skill 5 - Artists will be able to choose units in formulas.
- Essential Skill 6 - Artists will be able to choose limits on measurements when reporting quantities.
- Essential Skill 7 - Artists will be able to choose the level of accuracy.
- Essential Skill 8 - Artists will be able to solve quadratic equations in one variable, including completing the square and quadratic formula.
- Essential Skill 9 - Artists will be able to derive the quadratic formula by completing the square.

Standards

MATH.9-12.N.Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
MATH.9-12.N.Q.A.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
MATH.9-12.A.REI.B.4.a	Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.

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

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