

Algebra II Curriculum Map  
2013-2014

**Focus Topic 2 – Graphs of Quadratic Functions**  
**(3 Weeks)**

**E.2.a** – Determine the domain and range of a quadratic function; graph the function with and without technology.

**Learning Target(s):**

- I can determine the domain and range of a quadratic function.
- I can graph a quadratic function with and without technology

**E.2.b** – Use transformations (e.g., translation, reflection) to draw the graph of a relation and determine a relation that fits a graph.

**Learning Target(s):**

- I can use transformations to draw the graph of a relation.
- I can use transformations to determine a relation that fits a graph.

**E.2.c** – Graph a system of quadratic inequalities with and without technology to find the solution set to the system.

**Learning Target(s):**

- I can graph a system of quadratic inequalities with and without technology to find the solution set to the system.

**E.3.a (Supporting Standard)** – Identify conic sections (e.g., parabola, circle, ellipse, hyperbola) from their equations in standard form

**Learning Target(s):**

- I can identify conic sections from their equations in standard form.

**E.3.b (Supporting Standard)** – Graph circles and parabolas and their translations from given equations or characteristics with and without technology

**Learning Target(s):**

- I can graph circles and their translations from given equations or characteristics with and without technology.
- I can graph parabolas and their translations from given equations or characteristics with and without technology.

**E.3.c (Supporting Standard)** – Determine characteristics of circles and parabolas from their equations and graphs

**Learning Target(s):**

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- I can determine characteristics of circles from their equations and graphs.
- I can determine characteristics of parabolas from their equations and graphs.

**E.3.d (Supporting Standard)** – Identify and write equations for circles and parabolas from given characteristics and graphs

### Learning Target(s):

- I can identify and write equations for circles from given characteristics and graphs.
- I can identify and write equations for parabolas from given characteristics and graphs.

### Foundation Topic: Graphing linear functions (A.1.g)

**A.1.g** – Graph a linear equation using a table of values, x- and y-intercepts, or slope-intercept form

### Learning Target(s):

- I can graph a linear equation using a table of values.
- I can graph a linear equation using the x- and y-intercepts.
- I can graph a linear equation using the slope-intercept form.

**Vocabulary:** linear function, intercept, slope-intercept form, domain, range, quadratic function, transformation, quadratic inequality, system, solution set, parabola, circle, ellipse, hyperbola

### Instructional Notes:

- Supporting standards do not have to be directly incorporated into instruction for all students, but for students that have mastered the focus and foundational standards, supporting standards should be incorporated.
- For students in Advanced or Honors courses, supporting standards are to be incorporated into instruction within the time frame allowed for the Focus Topic.

### Instructional Resources:

- Formative Assessment Lessons for Mathematics: <http://map.mathshell.org/materials/lessons.php>
- Formative Assessment Tasks for Mathematics: <http://map.mathshell.org/materials/tasks.php>
- Illustrative Mathematics: <http://www.illustrativemathematics.org/standards/k8>
- NCTM Illuminations: <http://illuminations.nctm.org/>
- PARCC: <http://www.parcconline.org/mcf/mathematics/parcc-model-content-frameworks-browser>
- Inside Mathematics: <http://insidemathematics.org/index.php/mathematical-content-standards>
- New York State: <http://www.engageny.org/mathematics>
- Lessons from *Algebra 2 Connections*: 1.2.3 (A.1.f)
- Lessons from *Algebra 2 Connections*: 1.1.3, 1.2.1 - 1.2.2, 2.1.5 (E.2.a)
- Lessons from *Algebra 2 Connections*: 4.1.1 - 4.1.3, 4.2.1 - 4.2.4 (E.2.b)
- Lessons from *Algebra 2 Connections*: 5.2.1 (E.2.c)
- Lessons from *Algebra 2 Connections*: 11.1.1 – 11.3.4 (E.3.a, E.3.b, E.3.c, E.3.d)

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- Checkpoint from *Algebra 2 Connections*: Number 1 (A.1.f)
- Checkpoint from *Algebra 2 Connections*: Number 9 (G.2.a)

### Assessment Notes:

- The Focus Topic will have 3 multiple choice questions and 1 extended response on the proficiency assessment.
- The Foundation Topic will have 3 multiple choice questions on the proficiency assessment.
- Foundational standards should be formatively assessed early in the cycle to identify foundational gaps of students.
- Supporting standards will not be directly assessed on proficiency assessments.