



BROWNELL TALBOT

Algebra II Prioritized Math Standards

The prioritized standards listed align with both the NCTM (National Council for Teachers of Mathematics) and the Nebraska State Standards. The NCTM also includes a set of Process Standards for grades preschool through 12 that highlight mathematical processes that students draw on to acquire and use their content knowledge (see the link on the next page).

Number & Operations

<p>Understand numbers, ways of representing numbers, relationships among numbers, and number systems</p>	<p>Compare/contrast the properties of numbers and number systems, including the rational and real numbers, and understand complex numbers as solutions to quadratic equations that do not have real solutions</p> <p>Use number theory arguments to justify relationships involving whole numbers</p>
<p>Understand meanings of operations and how they relate to one another</p>	<p>Judge the effects of such operations as multiplication, division, and computing powers and roots on the magnitudes of quantities</p>

Algebra

<p>Understand patterns, relations, & functions</p>	<p>Explain patterns using explicitly defined and recursively defined functions</p> <p>Select, convert flexibly among, and use various representations for functions and relations</p> <p>Understand and perform transformations such as arithmetically combining, composing, and inverting commonly used functions, using technology to perform such operations on more-complicated symbolic expressions</p> <p>Formulate representations of functions of two variables</p>
<p>Represent and analyze mathematical situations and structures using algebraic symbols</p>	<p>Apply equivalent forms of expressions, equations, inequalities, and relations</p> <p>Write equivalent forms of equations, inequalities, and systems of equations with 2-3 variables; solve with fluency-mentally or with paper and pencil in simple cases and using technology in all cases</p> <p>Apply understanding of meaning, utility, and reasonableness of the results of symbol manipulations, including those carried out by technology</p>
<p>Use mathematical models to represent and understand quantitative relationships</p>	<p>Identify essential quantitative relationships in a situation and determine the class or classes of functions that might model the relationships</p> <p>Use symbolic expressions, including iterative and recursive forms, to represent relationships arising from various contexts</p>

Geometry

Specify locations and describe spatial relationships using coordinate geometry and other representational systems

Use Cartesian coordinates and other coordinate systems, such as navigational, polar, or spherical systems, to analyze geometric situations

Use visualization, spatial reasoning, and geometric modeling to solve problems

Visualize three dimensional objects and spaces from different perspectives and analyze their cross sections

Measurement

Apply appropriate techniques, tools, and formulas to determine measurements

Apply informal concepts of successive approximation, upper and lower bounds, and limit in measurement situations

NCTM Process Standards: brownell.edu/nctm