

<u>Big Idea(s) of 1st nine weeks</u>	<u>Concept(s) of 1st nine weeks</u>	<u>Competencies of 1st nine weeks</u>	<u>Essential Questions of 1st nine weeks</u>
<p>Mathematical relationships among numbers can be represented, compared, and communicated.</p>	<p>Students will know:</p> <ul style="list-style-type: none"> ● Exponent Rules ● Rational Numbers ● Irrational Numbers ● Equations 	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Apply exponent rules to simplify expressions ● Compare rational and irrational numbers ● Create and solve equations 	<p>How are relationships represented mathematically?</p>
<p><u>Unit/Chapter/Selection of Study</u></p> <p>Number Systems Exponent Rules Product Of Powers Quotation of Powers Power of a Power Power of a Product Scientific Notation Zero Exponent Negative Exponent Square Roots and Cube Roots Real, Rational, and Irrational Numbers</p>	<p><u>Approx. # of weeks - % of time</u></p> <p>6 weeks</p>	<p><u>PA Academic Standards</u></p> <p>CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties.</p> <p>CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers.</p> <p>CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent expressions.</p>	<p><u>Assessment Anchors & Eligible Content</u></p> <p>M08.A-N.1.1.3 Estimate the value of irrational numbers without a calculator (limit whole number radicand to less than 144)</p> <p>M08.A-N.1.1.4 Use rational approximations of irrational numbers to compare and order irrational numbers.</p> <p>M08.A-N.1.1.5 Locate/identify rational and irrational numbers at their approximate locations on a number line.</p> <p>M08.B-E.3.1.1</p>

Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

M08.B-E.3.1.2

Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

M08.B-E.3.1.3

Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously.

M08.B-E.3.1.4

Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection.
Example: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.

<u>Unit/Chapter/Selection of Study</u>	<u>Approx. # of weeks - % of time</u>	<u>PA Academic Standards</u>	<u>Assessment Anchors & Eligible Content</u>
<p style="text-align: center;">Equations</p> <p>One step equations Two step equations Multi step equations Word problems</p>	<p style="text-align: center;">3 weeks</p>	<p style="text-align: center;">CC.2.2.8.B.3</p> <p>Analyze and solve linear equations and pairs of simultaneous linear equations.</p>	<p style="text-align: center;">M08.B-E.3.1.1</p> <p>Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).</p> <p style="text-align: center;">M08.B-E.3.1.2</p> <p>Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p> <p style="text-align: center;">M08.B-E.3.1.3</p> <p>Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously.</p> <p style="text-align: center;">M08.B-E.3.1.4</p> <p>Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. Example: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</p>

M08.B-E.3.1.5

Solve real-world and mathematical problems leading to two linear equations in two variables. Example: Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.