



Algebra I

This document provides correlations between the 2023 Indiana Academic Standards (IAS) and the Common Core State Standards (CCSS) for easy reference. This correlation guide is intended to help support conversations regarding state and national standards and may be used as one of many tools to help inform a variety of local decisions (e.g., selection of high-quality curricular materials, curriculum maps).

The 2023 Indiana Academic Standards resulted from the standards streamlining process required by Indiana Code (IC) 20-31-3-1(c-d) and were adopted by the Indiana State Board of Education in June 2023. Standards designated as essential (E) for student mastery by the end of the grade level are shaded in gray and all standards were renumbered to avoid gaps in sequencing.

2023 Indiana Academic Standard		Common Core State Standard		Differences Between 2023 IAS and CCSS
Domain: Number Systems, Expressions, and Functions				
Number	Text	Number	Text	Description
AI.NF.1	Simplify square roots of monomial algebraic expressions, including non-perfect squares.			
AI.NF.2	Add, subtract, and multiply polynomials. Divide polynomials by monomials. Use these operations to rewrite algebraic expressions in equivalent forms, and justify them with algebraic properties. (E)	A-APR.1	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	IAS only requires division of polynomials by a monomial and includes justifying steps with algebraic properties. CCSS includes an understanding of closure and specifies methods for division.
		A-APR.6	Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials	

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			with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.	
AI.NF.3	Extend understanding of independent/dependent variables to encompass domain/range, as applied to relations using tables, graphs, verbal descriptions, and equations. (E)	F-IF.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.	<i>No content differences identified.</i>
AI.NF.4	Evaluate functions for given elements of the domain, and interpret statements in function notation in terms of a context.	F-IF.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	<i>No content differences identified.</i>
AI.NF.5	Describe, qualitatively, the functional relationship between two quantities by analyzing key features of a graph. Sketch a graph that exhibits given key features of a function that has been verbally described, including intercepts, where the function is increasing or decreasing, where the function is positive or	8.F.5	Describe qualitatively the functional relationship between two quantities by analyzing a graph. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	IAS includes the identification of the independent and dependent variables. CCSS includes symmetry, end behavior, and periodicity.
		F-IF.4	For a function that models a relationship between two quantities,	

	negative, and any relative maximum or minimum values. Identify the independent and dependent variables. (E)		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.	
2023 Indiana Academic Standard		Common Core State Standard		Differences Between 2023 IAS and CCSS
Domain: Linear Equations, Inequalities, and Functions				
Number	Text	Number	Text	Description
AI.L.1	Represent real-world problems using linear equations and inequalities in one variable, including those with rational number coefficients and variables on both sides of the equal sign. Solve them fluently, explaining the process used and justify the choice of a solution method. (E)	A-CED.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	IAS emphasizes real-world problems and includes equations with variables on both sides of the equal sign. IAS also specifies linear equations and inequalities only including equations with rational number coefficients.
		A-REI.1	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a	

			viable argument to justify a solution method.	
A1.L.2	Represent linear functions as graphs from equations (with emphasis on technology), equations from graphs, and equations from tables and other given information (e.g., from a given point on a line and the slope of the line). Find the equations of a line in a slope-intercept, point-slope, and standard forms. Recognize that different forms reveal more or less information about a given situation based on the form used.	8.F.4	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	IAS includes graphing linear equations and specifies the three forms of a linear equation that should be included. IAS emphasizes recognizing what each equation form reveals.
A1.L.3	Represent real-world problems that can be modeled with a linear function using equations, graphs, and tables, including with technology. Translate fluently among these representations and interpret the slope and intercepts. (E)	8.F.4	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	IAS emphasizes using real-world problems and requires students to translate between representations fluently.

AI.L.4	Solve linear and quadratic equations and formulas for a specified variable to highlight a quantity of interest, using the same reasoning as in solving equations. (E)	A-CED.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	IAS specifies linear and quadratic equations and formulas.
2023 Indiana Academic Standard		Common Core State Standard		Differences Between 2023 IAS and CCSS
Domain: Systems of Linear Equations and Inequalities				
Number	Text	Number	Text	Description
AI.SEI.1	Represent real-world problems using linear inequalities in two variables and solve such problems; interpret the solution set, and determine whether it is reasonable. Graph the solutions to a linear inequality in two variables as a half-plane. (E)	A-REI.12	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	IAS emphasizes using real-world problems. CCSS includes systems of linear inequalities in two variables.
AI.SEI.2	Write and graph a system of two linear equations in two variables that represents a real-world problem and solve the problem graphically and algebraically with and without technology. Interpret the solution, and determine whether the solution is reasonable. (E)	A-CED.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	IAS emphasizes using real-world problems and specifies systems of linear equations. IAS also includes using technology to solve systems of linear equations.
		A-CED.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or	

			nonviable options in a modeling context.	
		A-REI.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	
AI.SEI.3	Represent real-world problems using a system of two linear inequalities in two variables. Graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes with and without technology. Interpret the solution set, and determine whether it is reasonable.	A-REI.12	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	IAS emphasizes using real-world problems and specifies systems of linear inequalities. IAS also includes using technology to solve systems of linear inequalities.
		A-CED.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.	

2023 Indiana Academic Standard		Common Core State Standard		Differences Between 2023 IAS and CCSS
Domain: Quadratic and Exponential Equations and Functions				
Number	Text	Number	Text	Description
AI.QE.1	Distinguish between situations that can be modeled with linear functions and exponential functions. Understand that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. Compare linear functions and exponential functions that model real-world situations using tables, graphs, and equations. (E)	F-LE.1	Distinguish between situations that can be modeled with linear functions and with exponential functions.	IAS emphasizes using real-world problems to compare functions and specifies linear and exponential functions. CCSS requires students to prove how each type of function grows, while IAS requires students to understand these differences.
		F-LE.1a	Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	
		F-IF.9	Compare properties of two functions each represented in a different way (algebraically, numerically in tables, or by verbal descriptions).	
AI.QE.2	Represent real-world and other mathematical problems that can be modeled with simple exponential functions using tables, graphs, and equations of the form $y = ab^x$ (for integer values of $x > 1$, rational values of $b > 0$ and $b \neq 1$) with and without technology; interpret the values of a and b .	F-LE.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	IAS emphasizes using real-world problems and specifies simple exponential functions only. CCSS includes arithmetic and geometric sequences, while IAS states the form of the exponential equation that should be used.
		F-LE.5	Interpret the parameters in a linear or exponential function in terms of a context.	

AI.QE.3	Solve quadratic equations in one variable by inspection (e.g., for $x^2 = 49$), finding square roots, using the quadratic formula, and factoring, as appropriate to the initial form of the equation.	A-REI.4b	Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b .	CCSS includes completing the square and quadratics with complex solutions. IAS addresses complex solutions in standard AI.QE.6.
AI.QE.4	Represent real-world problems using quadratic equations in one or two variables and solve such problems with technology. Interpret the solution(s), and determine whether they are reasonable. (E)	A-CED.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	IAS emphasizes using real-world problems and specifies quadratic equations only. IAS also includes solving quadratic equations using technology and determining the reasonableness of the answers.
		A-REI.4	Solve quadratic equations in one variable.	
AI.QE.5	Graph exponential and quadratic functions with and without technology. Identify and describe key features, such as zeros, lines of symmetry, and extreme values in real-world and other mathematical problems involving quadratic functions with and without technology; interpret the results in the real-world contexts.	F-IF.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.	IAS emphasizes using real-world problems and specifies exponential and quadratic functions only for this standard. IAS also requires students to graph functions with and without technology and identify and describe key features from the graphs.
		F-IF.8a	Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	
		F-IF.7e	Graph exponential and logarithmic functions, showing intercepts and	

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			end behavior, and trigonometric functions, showing period, midline, and amplitude.	
AI.QE.6	Describe the relationships among a solution of a quadratic equation, a zero of the function, an x-intercept of the graph, and the factors of the expression. Explain that every quadratic has two complex solutions, which may or may not be real solutions.	F-IF.8a	Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	IAS requires students to understand the relationship between solutions, zeroes, x-intercepts, and factors. IAS also requires students to understand that all quadratics have two complex solutions, while CCSS requires students to find these non-real solutions.
		N-CN.9	Know the Fundamental Theorem of Algebra: show that it is true for quadratic polynomials.	
2023 Indiana Academic Standard		Common Core State Standard		Differences Between 2023 IAS and CCSS
Domain: Data Analysis & Statistics				
Number	Text	Number	Text	Description
AI.DS.1	Interpret statistics as a process for making inferences about a population based on a random sample from that population. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. (E)	S-IC.1	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	<i>No content differences identified.</i>
		S-IC.3	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	
AI.DS.2	Understand that statistics and data			

	are non-neutral and designed to serve a particular interest. Analyze the possibilities for whose interest might be served and how the representations might be misleading. (E)		
AI.DS.3	Use technology to find a linear function that models a relationship between two quantitative variables to make predictions and interpret the slope and y-intercept. Using technology, compute and interpret the correlation coefficient. (E)	S-ID.6a	Fit a function to the data; use functions fitted to data to solve problems in the context of data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.
		S-ID.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
		S-ID.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.
			CCSS includes quadratic and exponential models.
AI.DS.4	Summarize bivariate categorical data in two-way frequency tables. Interpret relative frequencies in the contexts of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in data.	S-ID.5	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
			<i>No content differences identified.</i>

Mathematics Process Standards

2023 Indiana Academic Standard	Common Core State Standard	Differences Between 2023 IAS and CCSS
<p>PS.1: Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway, rather than simply jumping into a solution attempt. They consider analogous problems and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" and "Is my answer reasonable?" They understand the approaches of others to solving complex problems and identify correspondences between different approaches. Mathematically proficient students understand how mathematical ideas interconnect and build on one another to produce a coherent whole.</p>	<p>MP.1: Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem.</p>	<p>IAS summarizes what mathematically proficient students can do, while CCSS gives examples of what mathematically proficient students might do at different grade levels.</p>

	<p>Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	
<p>PS.2: Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.</p>	<p>MP.2: Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.</p>	<p><i>No content differences identified.</i></p>
<p>PS.3: Construct viable arguments and critique the reasoning of others.</p>	<p>MP.3: Construct viable arguments and critique the reasoning of others.</p>	<p>IAS explains that mathematically proficient students can justify</p>

<p>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They analyze situations by breaking them into cases and recognize and use counterexamples. They organize their mathematical thinking, justify their conclusions and communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. They justify whether a given statement is true always, sometimes, or never. Mathematically proficient students participate and collaborate in a mathematics community. They listen to or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p>	<p>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p>	<p>statements that are true always, sometimes, or never. IAS also states that mathematically proficient students participate and collaborate in a mathematics community. CCSS gives examples of what mathematically proficient students might do at different grade levels.</p>
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<p>PS.4: Model with mathematics. Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace using a variety of appropriate strategies. They create and use a variety of representations to solve problems and to organize and communicate mathematical ideas. Mathematically proficient students apply what they know and are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</p>	<p>MP.4: Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</p>	<p>IAS summarizes what mathematically proficient students can do, while CCSS gives examples of what mathematically proficient students might do at different grade levels.</p>
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<p>PS.5: Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Mathematically proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. Mathematically proficient students identify relevant external mathematical resources, such as digital content, and use them to pose or solve problems. They use technological tools to explore and deepen their understanding of concepts and to support the development of learning mathematics. They use technology to contribute to concept development, simulation, representation, reasoning, communication and problem solving.</p>	<p>MP.5: Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p>	<p>IAS summarizes what mathematically proficient students can do, while CCSS gives examples of what mathematically proficient students might do at different grade levels.</p>
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<p>PS.6: Attend to precision. Mathematically proficient students communicate precisely to others. They use clear definitions, including precision. correct mathematical language, in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They express solutions clearly and logically by using the appropriate mathematical terms and notation. They specify units of measure and label axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently and check the validity of their results in the context of the problem. They express numerical answers with a degree of precision appropriate for the problem context.</p>	<p>MP.6: Attend to precision. Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p>	<p>IAS summarizes what mathematically proficient students can do, while CCSS gives examples of what mathematically proficient students might do at different grade levels.</p>
<p>PS.7: Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. They step back for an overview and shift perspective. They recognize and use properties of operations and equality. They organize and classify geometric shapes based on their attributes. They see expressions, equations, and geometric figures as single objects or as being composed of several objects.</p>	<p>MPS.7: Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as 2</p>	<p>IAS summarizes what mathematically proficient students can do, while CCSS gives examples of what mathematically proficient students might do at different grade levels.</p>

	<p>+ 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.</p>	
<p>PS.8: Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated and look for general methods and shortcuts. They notice regularity in mathematical problems and their work to create a rule or formula. Mathematically proficient students maintain oversight of the process, while attending to the details as they solve a problem. They continually evaluate the reasonableness of their intermediate results.</p>	<p>MP.8: Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a</p>	<p>IAS summarizes what mathematically proficient students can do, while CCSS gives examples of what mathematically proficient students might do at different grade levels.</p>

	<p>problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.</p>	
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