Indiana Department of Education

Indiana Academic Standards for Mathematics – Trigonometry
Adopted April 2014 – Standards Correlation Guide Document 5-28-2014

	Indiana Academic Standard for Trigonometry Mathematics – Adopted April 2014	Indiana Academic Mathematics Standard Adopted 2000	Common Core State Standard for Mathematics	Differences From Previous Standards
		Process Standards		
MA.TR.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.	Connections Connecting mathematical concepts includes linking new ideas to related ideas learned previously, helping students to see mathematics as a unified body of knowledge whose concepts build upon each other. Major emphasis should be given to ideas and concepts across mathematical content areas that help students see that mathematics is a web of closely connected ideas (algebra, geometry, the entire number system). Mathematics is also the common language of many other disciplines (science, technology, finance, social science, geography) and students should learn mathematical concepts used in those disciplines. Finally, students should connect their mathematical learning to appropriate real-world contexts.	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. 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.	IAS 2014 removes criteria involving a graphing calculator and does not distinguish between younger and older students.
MA.TR.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.		2 Reason abstractly and quantitatively. Mathematically proficient students make sense of the quantities and their relationships in problem situations. Students 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.	IAS 2014 is similar to common core, both expand upon IAS 2000 by having the student decontextualize problems and develop quantitative reasoning.

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MA.TR.PS.3: Construct viable arguments and critique the reasoning of others.	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.	Communication The ability to read, write, listen, ask questions, think, and communicate about math will develop and deepen students' understanding of mathematical concepts. Students should read text, data, tables, and graphs with comprehension and understanding. Their writing should be detailed and coherent, and they should use correct mathematical vocabulary. Students should write to explain answers, justify mathematical reasoning, and describe problem-solving strategies.	3 Construct viable arguments and critique the reasoning of others. 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.	IAS 2014 is similar to common core, both expand upon IAS 2000 by having students construct arguments , use counterexamples, and critique others arguments. IAS 2014 does not distinguish between younger and older students.
MA.TR.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.	Representation The language of mathematics is expressed in words, symbols, formulas, equations, graphs, and data displays. The concept of one-fourth may be described as a quarter, , one divided by four, 0.25, + , 25 percent, or an appropriately shaded portion of a pie graph. Higher-level mathematics involves the use of more powerful representations: exponents, logarithms, π, unknowns, statistical representation, algebraic and geometric expressions. Mathematical operations are expressed as representations: +, =, divide, square. Representations are dynamic tools for solving problems and communicating and expressing mathematical ideas and concepts.	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.	IAS 2014 has removed examples and does not distinguish between younger and older students.

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MA.TR.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.		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.	IAS 2014 does not distinguish between younger and older students. Both IAS 2014 and CCSS expand upon IAS 2000 by having students consider more than just graphing.
MA.TR.PS.6: Attend to precision.	Mathematically proficient students communicate precisely to others. They use clear definitions, including 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.	Communication The ability to read, write, listen, ask questions, think, and communicate about math will develop and deepen students' understanding of mathematical concepts. Students should read text, data, tables, and graphs with comprehension and understanding. Their writing should be detailed and coherent, and they should use correct mathematical vocabulary. Students should write to explain answers, justify mathematical reasoning, and describe problem-solving strategies.	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.	IAS 2014 does not distinguish between younger and older students.

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MA.TR.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.		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 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression x2 + 9x + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 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.	IAS 2014 has removed examples and does not distinguish between younger and older students. Both IAS 2014 and CCSS expand upon IAS 2000 by having students discern patterns, structure, geometric figures, and composition of objects.
MA.TR.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.		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)(x2 + x + 1), and (x − 1)(x3 + x2 + x + 1) might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	IAS 2014 has removed examples and does not distinguish between younger and older students.
Conics				
MA.TR.CO.1:	TR.CO.1: Determine how the graph of a parabola changes if a, b and c changes in the equation y = a(x − b)^2 + c. Find an equation for a parabola when given sufficient information.	A2.4.1 Write the equations of conic sections (circle, ellipse, parabola, and hyperbola). PC.1.10 Write the equations of conic sections in standard form (completing the square and using translations as necessary), in order to find the type of conic section and to find its geometric properties (foci, asymptotes, eccentricity, etc.).		IAS2014 combines the two IAS2000 standards into one so that the skill is taught in context and not as individual skills

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MA.TR.CO.2:	TR.CO.2: Derive the equation of a parabola given a focus and directrix.	A2.4.1 Write the equations of conic sections (circle, ellipse, parabola, and hyperbola). PC.1.10 Write the equations of conic sections in standard form (completing the square and using translations as necessary), in order to find the type of conic section and to find its geometric properties (foci, asymptotes, eccentricity, etc.).	G-GPE.2 Derive the equation of a parabola given a focus and directrix.	IAS2014 is the same as the CCSS standard
MA.TR.CO.3:	TR.CO.3: Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.	A2.4.1 Write the equations of conic sections (circle, ellipse, parabola, and hyperbola).		IAS2014 Has students completing the square to get the equation of the circle in standard form
MA.TR.CO.4:	TR.CO.4: Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.	A2.4.1 Write the equations of conic sections (circle, ellipse, parabola, and hyperbola). PC.1.10 Write the equations of conic sections in standard form (completing the square and using translations as necessary), in order to find the type of conic section and to find its geometric properties (foci, asymptotes, eccentricity, etc.).	G-GPE.3 Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.	IAS2014 is the same as the CCSS standard
MA.TR.CO.5:	TR.CO.5: Graph conic sections. Identify and describe features like center, vertex or vertices, focus or foci, directrix, axis of symmetry, major axis, minor axis, and eccentricity.	PC.1.10 Write the equations of conic sections in standard form (completing the square and using translations as necessary), in order to find the type of conic section and to find its geometric properties (foci, asymptotes, eccentricity, etc.).		IAS2014 Has more specifics about attributes of conics
MA.TR.CO.6:	TR.CO.6: Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.		G-GMD.1 Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.	The IAS2014 is the same as the CCSS
Unit Circle				
MA.TR.UC.1:	TR.UC.1: Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.		F-TF.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	The IAS2014 is the same as the CCSS
MA.TR.UC.2:	TR.UC.2: Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.		F-TF.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	The IAS2014 is the same as the CCSS
MA.TR.UC.3:	TR.UC.3: Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.	PC.4.3 Learn exact sine, cosine, and tangent values for 0, , , , , and multiples of π. Use those values to find other trigonometric values.	F-TF.4 Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.	The IAS2014 is the same as the CCSS
Geometry				
MA.TR.G.1:	TR.G.1: Solve real-world problems with and without technology that can be modeled using right triangles, including problems that can be modeled using trigonometric ratios. Interpret the solutions and determine whether the solutions are reasonable.	PC.3.1 Solve word problems involving right and oblique triangles. PC.4.11 Make connections between right triangle ratios, trigonometric functions, and circular functions. PC.5.6 Solve word problems involving applications of trigonometric equations.		IAS2014 combines three standards from the IAS2000 to teach the Trigonometric Ratios in context
MA.TR.G.2:	TR.G.2: Explain and use the relationship between the sine and cosine of complementary angles.		G-SRT.7 Explain and use the relationship between the sine and cosine of complementary angles.	The IAS2014 is the same as the CCSS

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MA.TR.G.3:	TR.G.3: Use special triangles to determine the values of sine, cosine, and tangent for π/3, π/4, and π/6. Apply special right triangles to the unit circle and use them to express the values of sine, cosine, and tangent for x, π + x, and 2π − x in terms of their values for x, where x is any real number.	PC.4.3 Learn exact sine, cosine, and tangent values for 0, , , , , and multiples of π. Use those values to find other trigonometric values.	F-TF.3 Use special triangles to determine geometrically the values of sine, cosine, tangent for π /3, π/4 and π/6, and use the unit circle to express the values of sine, cosine, and tangent for π-x, π+x, and 2π-x in terms of their values for x, where x is any real number.	The IAS2014 is the same as the CCSS
MA.TR.G.4:	TR.G.4: Prove the Laws of Sines and Cosines and use them to solve problems.	PC.3.2 Apply the laws of sines and cosines to solving problems.	G-SRT.10 Prove the Laws of Sines and Cosines and use them to solve problems.	The IAS2014 is the same as the CCSS
MA.TR.G.5:	TR.G.5: Understand and apply the Laws of Sines and Cosines to solve real-world and other mathematical problems involving right and non-right triangles.	PC.3.1 Solve word problems involving right and oblique triangles. PC.3.2 Apply the laws of sines and cosines to solving problems.	G-SRT.11 Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	The IAS2014 is the same as the CCSS it just does not have the examples
MA.TR.G.6:	TR.G.6: Derive the formula A = 1/2 ab sin(C) for the area of a triangle by drawing an auxiliary line. Use the formula to find areas of triangles.	PC.3.3 Find the area of a triangle given two sides and the angle between them.	G-SRT.9 Derive the formula A = ½ ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	The IAS2014 is the same as the CCSS
Periodic Functions				
MA.TR.PF.1:	TR.PF.1: Find a sinusoidal function to model a data set and explain the parameters of the model.	PC.4.4 Solve word problems involving applications of trigonometric functions. PC.8.3 Find a quadratic, exponential, logarithmic, power, or sinusoidal function to model a data set and explain the parameters of the model.		IAS2014 combines two standards from the IAS2000 to teach the Sinusoidal Functions in context
MA.TR.PF.2:	TR.PF.2: Graph trigonometric functions with and without technology. Use the graphs to model and analyze periodic phenomena, stating amplitude, period, frequency, phase shift, and midline (vertical shift).	PC.4.5 Define and graph trigonometric functions (i.e., sine, cosine, tangent, cotangent, secant, cosecant). PC.4.6 Find domain, range, intercepts, periods, amplitudes, and asymptotes of trigonometric functions. PC.4.7 Draw and analyze graphs of translations of trigonometric functions, including period, amplitude, and phase shift.	F-TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.	The IAS2014 is the same as the CCSS with more specific attributes for the Trigonometric Functions. The IAS2014 combines three standards from the IAS2000 to teach the graphs of Trigonometric Functions.
MA.TR.PF.3:	TR.PF.3: Construct the inverse trigonometric functions of sine, cosine, and tangent by restricting the domain.	PC.4.9 Find values of trigonometric and inverse trigonometric functions.		IAS2014 Asks students to construct the Trigonometric Functions based on the domain.
MA.TR.PF.4:	TR.PF.4: Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.	PC.5.5 Solve trigonometric equations.	F-TF.7 Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.	The IAS2014 is the same as the CCSS
MA.TR.PF.5:	TR.PF.5: Prove the addition and subtraction formulas for sine, cosine, and tangent. Use the formulas to solve problems.	PC.5.3 Understand and use the addition formulas for sines, cosines, and tangents.		IAS2014 adds subtraction
MA.TR.PF.6:	TR.PF.6: Prove the double- and half-angle formulas for sine, cosine, and tangent. Use the formulas to solve problems.	PC.5.4 Understand and use the half-angle and double-angle formulas for sines, cosines, and tangents.		IAS2014 Asks students to prove double- and half-angle formulas
MA.TR.PF.7:	TR.PF.7: Define and use the trigonometric ratios (sine, cosine, tangent, cotangent, secant, cosecant) in terms of angles of right triangles and the coordinates on the unit circle.	PC.4.1 Define sine and cosine using the unit circle.		IAS2014 asks students to define all six Trigonometric Ratios not just the three basic like the IAS2000
Identities				

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MA.TR.ID.1:	TR.ID.1: Prove the Pythagorean identity sin^2(x) + cos^2(x) = 1 and use it to find trigonometric ratios, given sin(x), cos(x), or tan(x), and the quadrant of the angle.	PC.5.1 Know the basic trigonometric identity cos2x + sin2x = 1 and prove that it is equivalent to the Pythagorean Theorem.	F-TF.8 Prove the Pythagorean identity sin2(θ) + cos2(θ) = 1 and use it find sin(θ), cos(θ), or tan(θ) given sin(θ), cos(θ), or tan(θ) and the quadrant.	The IAS2014 is the same as the CCSS
MA.TR.ID.2:	TR.ID.2: Verify basic trigonometric identities and simplify expressions using these and other trigonometric identities.	PC.5.2 Use basic trigonometric identities to verify other identities and simplify expressions.		The IAS2014 is the same as the IAS2000
Polar Coordinates				
MA.TR.PC.1:	TR.PC.1: Define polar coordinates and relate polar coordinates to Cartesian coordinates.	PC.6.1 Define polar coordinates and relate polar coordinates to Cartesian coordinates.		The IAS2014 is the same as the IAS2000
MA.TR.PC.2:	TR.PC.2: Translate equations from rectangular coordinates to polar coordinates and from polar coordinates to rectangular coordinates. Graph equations in the polar coordinate plane.	PC.6.2 Represent equations given in rectangular coordinates in terms of polar coordinates.		IAS2014 asks students to translate and graph from polar to rectangular and rectangular to polar
Vectors				
MA.TR.V.1:	TR.V.1: Solve problems involving velocity and other quantities that can be represented by vectors.		N-VM.3 Solve problems involving velocity and other quantities that can be represented by vectors.	The IAS2014 is the same as the CCSS
MA.TR.V.2:	TR.V.2: Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as c(vx, vy) = (cvx, cvy).		N-VN.5a Multiply a vector by a scalar. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as c(vx, vy) = (cvx, cvy).	The IAS2014 is the same as the CCSS
MA.TR.V.3:	TR.V.3: Compute the magnitude of a scalar multiple cv using ||cv|| = |c|v. Compute the direction of cv knowing that when |c|v ≠ 0, the direction of cv is either along v (for c > 0) or against v (for c < 0).		N-VN.5b Multiply a vector by a scalar. Compute the magnitude of a scalar multiple cv using ||cv|| = |c|v. Compute the direction of cv knowing that when |c|v ≠ 0, the direction of cv is either along v (for c > 0) or against v (for c < 0).	The IAS2014 is the same as the CCSS
		Unaligned Indiana Academic Mathematics Standard Adopted 2000	**Unaligned Common Core State Standard for Mathematics**	
		PC.4.2 Convert between degree and radian measures.	F-TF.6 Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.	
		PC.4.8 Define and graph inverse trigonometric functions.	F-TF.9 Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.	
		PC.4.10 Know that the tangent of the angle that a line makes with the x-axis is equal to the slope of the line.		

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