Description of I AM Blueprints
Grade 10 Mathematics
(Beginning 2019–20 School Year)

Reporting Category	Content Connector (CC)	Content Connector	CC Item Range	
			Min	Max
Equations and Inequalities (Linear and Systems)	MA10.EI.1.a.1	Solve linear equations with integer coefficients using one or two steps.	1	4
	MA10.EI.2.a.1	Recognize when a linear equation has one solution, infinitely many solutions, or no solutions.	0	1
	MA10.EI.3.a.1	Translate a real-world problem into a one-variable linear equation.	0	2
	MA10.EI.4.a.1	Represent a real-world situation using a proportion.	1	2
	MA10.EI.5.a.1	Identify solutions from the graph of a linear inequality within a real-world problem.	0	2
	MA10.EI.6.a.1	Find a solution of compound inequalities given a graph.	0	2
	MA10.EI.7.a.1	Solve literal equations for a specified variable.	0	1
	MA10.EI.8.a.1	Evaluate the absolute value of an expression.	0	1
	MA10.EI.9.a.1	Identify an absolute value graph.	0	1
	MA10.SEI.1.a.1	Identify the solution to a system of linear equations given a graph.	1	2
	MA10.SEI.2.a.1	Solve a system of linear equations.	0	1
	MA10.SEI.3.a.1	Choose a system of linear equations that represents a given real-world problem.	0	2
	MA10.SEI.4.a.1	Identify the solution set to a system of inequalities.	0	1
Functions (Linear and Non-linear)	MA10.F.1.a.1	Given multiple representations, describe a function as linear and not linear.	0	2
	MA10.F.2.a.1	Identify the rate of change (slope) and initial value (y-intercept) from graphs.	0	2
	MA10.F.4.a.1	Interpret the rate of change using graphical representations of a real-world situation.	0	2
	MA10.F.5.a.1	Describe the attributes of an equation given various forms.	0	1
	MA10.F.6.a.1	Given a table or a graph, compare two linear functions to answer a question about rates.	1	2
	MA10.F.7.a.1	Distinguish between functions and non-functions within graphs or tables	0	2
	MA10.F.8.a.1	Identify the domain and range from a table or graph.	0	1
	MA10.F.9.a.1	Given the qualitative features, sketch a graph.	0	2
	MA10.F.9.a.2	Given a sketch, describe and make predictions about the relationship between the variables.	0	2
	MA10.F.9.a.3	Given a graph, describe the defining features of a function.	0	2
	MA10.F.9.a.4	Given a verbal description, create or identify a graph to model the situation.	0	1

	MA10.F.10.a.1	Interpret statements that use function notation in terms of a context.	0	1
	MA10.QEEF.1.a.1	Given multiple graphs, describe the function as linear or not linear.	0	2
	MA10.QEEF.2.a.1	Determine if points lie on a graph of an exponential or quadratic function.	0	2
	MA10.QEEF.3.a.1	Solve equations using square roots.	0	2
	MA10.QEEF.4.a.1	Determine if points lie on a graph of a quadratic function of a real-world situation.	0	2
	MA10.QEEF.5.a.1	Describe attributes of a quadratic function in a real-world problem.	1	2
	MA10.QEEF.6.a.1	With a model, answer questions about exponential functions.	0	2
Number Sense and Data Analysis	MA10.NSEC.1.a.1	Identify rational and irrational numbers.	0	2
	MA10.NSEC.1.a.2	Round irrational numbers to the hundredths place	0	2
	MA10.NSEC.2.a.1	Use the estimate of irrational numbers to locate them on a number line.	0	1
	MA10.NSEC.3.a.1	Use properties of integer exponents to produce equivalent expressions.	0	2
	MA10.NSEC.6.a.1	Solve real-world problems with rational numbers by using two operations.	0	2
	MA10.NSEC.8.a.1	Simplify numeric exponential expressions in rational form.	1	4
	MA10.NSEC.9.a.1	Use factoring to find equivalent expressions.	0	1
	MA10.NSEC.10.a.1	Add and subtract polynomials.	0	2
	MA10.NSEC.10.a.2	Multiply polynomials.	0	1
	MA10.NSEC.10.a.3	Divide a polynomial by a monomial	0	1
	MA10.DASP.1.a.1	Graph bivariate data using scatter plots and identify possible associations between the variables.	0	2
	MA10.DASP.1.a.2	Using scatter plots, identify data points that appear to be outliers.	0	2
	MA10.DASP.2.a.1	Determine the theoretical probability of multi-stage probability experiments (2 coins, 2 dice).	0	1
	MA10.DASP.2.a.2	Collect data from multi-stage probability experiments (2 coins, 2 dice).	0	1
	MA10.DASP.3.a.1	Use the multiplication counting principle to determine the total number of outcomes.	0	2
	MA10.DASP.4.a.1	Determine whether a sampling method was random or nonrandom.	0	2
	MA10.DASP.6.a.1	Use the line of best fit to find a point that answers a question about the data.	0	2
	MA10.DASP.7.a.1	Interpret a two-way table summarizing data on two categorical variables collected from the same subjects using relative frequencies calculated for rows or columns.	1	4
	MA10.GM.1.a.1	Identify and describe attributes of three-dimensional geometric objects.	1	2

Geometry and Measurement	MA10.GM.2.a.1	Apply the formula to find the volume of three-dimensional shapes (e.g., cubes, spheres, and cylinders).	1	4
	MA10.GM.3.a.1	Describe a sequence of transformations between two congruent figures.	1	2
	MA10.GM.4.a.1	Describe the effects of transformations on the coordinates of a figure.	0	1
	MA10.GM.5.a.1	Apply the Pythagorean Theorem to determine lengths/distances in real-world situations.	1	2
	MA10.GM.5.a.2	Find the hypotenuse of a twodimensional right triangle (Pythagorean Theorem).	0	2
	MA10.GM.6.a.1	Apply the Pythagorean Theorem to determine lengths/distances on a coordinate plane.	0	1
Process Standards (Aggregate Reporting Only)	*PS.1	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.	0	1
	*PS.2	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.	0	1
	*PS.3	Mathematically proficient students understand and	0	1

		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.		
	*PS.4	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.	0	1
	*PS.5	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	0	1

		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.		
	*PS.6	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.	0	1
	*PS.7	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.	0	1
	*PS.8	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.	0	1
	Link to IDOE's I AM Blueprint Total High Priority (Purple): 11 Total Medium Priority (Blue): 27 Total Lesser Priority (Gray): 26 *- Indicates standard not on Vertical Alignment			