Georgia
Standards of Excellence

Mathematics

GSE Analytic Geometry and GSE Geometry Crosswalk

Georgia Department of Education

Richard Woods, Georgia's School Superintendent
"Educating Georgia's Future"

The chart below compares GSE Analytic Geometry course standards to GSE Geometry course standards.

GSE Analytic Geometry	GSE Geometry
The Real Number System	
<u>Extend the properties of exponents to rational exponents.</u> **MGSE9-12.N.RN.2** Rewrite expressions involving radicals ~~and rational exponents using the properties of exponents.~~ (i.e., simplify and/or use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots). **<u>Use properties of rational and irrational numbers</u>** **MGSE9-12.N.RN.3** Explain why the sum or product of rational numbers is rational; why the sum of a rational number and an irrational number is irrational; and why the product of a nonzero rational number and an irrational number is irrational.	
Seeing Structure in Expressions	
<u>Interpret the structure of expressions</u> **MGSE9-12.A.SSE.1** Interpret expressions that represent a quantity in terms of its context. **MGSE9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients, in context. **MGSE9-12.A.SSE.1b** Given situations which utilize formulas or expressions with multiple terms and/or factors, interpret the meaning (in context) of individual terms or factors.	

MGSE9-12.A.SSE.2 Use the structure of an expression to rewrite it in different equivalent forms. For example, see $x^4 – y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 – y^2) (x^2 + y^2)$. **Write expressions in equivalent forms to solve problems** **MGSE9-12.A.SSE.3** Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. **MGSE9-12.A.SSE.3a** Factor any quadratic expression to reveal the zeros of the function defined by the expression. **MGSE9-12.A.SSE.3b** Complete the square in a quadratic expression to reveal the maximum or minimum value of the function defined by the expression.	
Arithmetic with Polynomial and Rational Expressions	
Perform arithmetic operations on polynomials **MGSE9-12.A.APR.1** Add, subtract, and multiply polynomials; understand that polynomials form a system analogous to the integers in that they are closed under these operations.	
Creating Equations	
Create equations that describe numbers or relationships **MGSE9-12.A.CED.1** Create equations and inequalities in one variable and use them to solve problems. Include equations arising from ~~linear,~~ quadratic, ~~simple rational, and exponential~~ functions ~~(integer inputs only).~~ **MGSE9-12.A.CED.2** Create ~~linear,~~ quadratic, ~~and exponential~~ equations in two or more variables to represent relationships between quantities; graph	

equations on coordinate axes with labels and scales. (The phrase "in two or more variables" refers to formulas like the compound interest formula, in which $A = P(1 + \frac{r}{n})^{nt}$ has multiple variables.) **MGSE9-12.A.CED.4** Rearrange formulas to highlight a quantity of interest using the same reasoning as in solving equations. *Examples: Rearrange Ohm's law V = IR to highlight resistance R; Rearrange area of a circle formula $A = \pi r^2$ to highlight the radius r.*	
Reasoning with Equations and Inequalities	
Solve equations and inequalities in one variable **MGSE9-12.A.REI.4** Solve quadratic equations in one variable. **MGSE9-12.A.REI.4a** Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from $ax^2 + bx + c = 0$. **MGSE9-12.A.REI.4b** Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, factoring, completing the square, and the quadratic formula, as appropriate to the initial form of the equation (limit to real number solutions).	
Interpreting Functions	
Interpret functions that arise in applications in terms of the context **MGSE9-12.F.IF.4** Using tables, graphs, and verbal descriptions, interpret the key characteristics of a function which models the relationship between two quantities. Sketch a graph showing key features including: intercepts; interval where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; ~~and periodicity.~~	

MGSE9-12.F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.* **MGSE9-12.F.IF.6** Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. **Analyze functions using different representations** **MGSE9-12.F.IF.7** Graph functions expressed algebraically and show key features of the graph both by hand and by using technology. **MGSE9-12.F.IF.7a** Graph ~~linear and~~ quadratic functions and show intercepts, maxima, and minima (as determined by the function or by context). **MGSE9-12.F.IF.8** Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. **MGSE9-12.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. *For example, compare and contrast quadratic functions in standard, vertex, and intercept forms.* **MGSE9-12.F.IF.9** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one function and an algebraic expression for another, say which has the larger maximum.*	
Building Functions	
Build a function that models a relationship between two quantities **MGSE9-12.F.BF.1** Write a function that describes a relationship between two	

quantities. **MGSE9-12.F.BF.1a** Determine an explicit expression and the recursive process (steps for calculation) from context. *For example, if Jimmy starts out with $15 and earns $2 a day, the explicit expression "2x+15" can be described recursively (either in writing or verbally) as "to find out how much money Jimmy will have tomorrow, you add $2 to his total today."* $J_n = J_{n-1} + 2, J_0 = 15$ **<u>Build new functions from existing functions</u>** **MGSE9-12.F.BF.3** Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	
Linear, Quadratic, and Exponential Models	
<u>Construct and compare linear, quadratic, and exponential models and solve problems</u> **MGSE9-12.F.LE.3** Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	
Congruence	**Congruence**
	<u>Experiment with transformations in the plane</u> **MGSE9-12.G.CO.1** Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

	MGSE9-12.G.CO.2 Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). **MGSE9-12.G.CO.3** Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. **MGSE9-12.G.CO.4** Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. **MGSE9-12.G.CO.5** Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
<u>Understand congruence in terms of rigid motions</u> **MGSE9-12.G.CO.6** Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. **MGSE9-12.G.CO.7** Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. **MGSE9-12.G.CO.8** Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. (Extend to include HL and AAS.) **<u>Prove geometric theorems</u>** **MGSE9-12.G.CO.9** Prove theorems about lines and angles. Theorems	**<u>Understand congruence in terms of rigid motions</u>** **MGSE9-12.G.CO.6** Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. **MGSE9-12.G.CO.7** Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. **MGSE9-12.G.CO.8** Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. (Extend to include HL and AAS.) **<u>Prove geometric theorems</u>** **MGSE9-12.G.CO.9** Prove theorems about lines and angles. Theorems

include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints. **MGSE9-12.G.CO.10** Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180 degrees; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point. **MGSE9-12.G.CO.11** Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals. **<u>Make geometric constructions</u>** **MGSE9-12.G.CO.12** Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line. **MGSE9-12.G.CO.13** Construct an equilateral triangle, a square, and a regular hexagon, each inscribed in a circle.	include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints. **MGSE9-12.G.CO.10** Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180 degrees; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point. **MGSE9-12.G.CO.11** Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals. **<u>Make geometric constructions</u>** **MGSE9-12.G.CO.12** Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line. **MGSE9-12.G.CO.13** Construct an equilateral triangle, a square, and a regular hexagon, each inscribed in a circle.
Similarity, Right Triangles, and Trigonometry	**Similarity, Right Triangles, and Trigonometry**
<u>Understand similarity in terms of similarity transformations</u> **MGSE9-12.G.SRT.1** Verify experimentally the properties of dilations given by a center and a scale factor. a. The dilation of a line not passing through the center of the dilation	**<u>Understand similarity in terms of similarity transformations</u>** **MGSE9-12.G.SRT.1** Verify experimentally the properties of dilations given by a center and a scale factor. a. The dilation of a line not passing through the center of the dilation

results in a parallel line and leaves a line passing through the center unchanged.	results in a parallel line and leaves a line passing through the center unchanged.
b. The dilation of a line segment is longer or shorter according to the ratio given by the scale factor.	b. The dilation of a line segment is longer or shorter according to the ratio given by the scale factor.
MGSE9-12.G.SRT.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain, using similarity transformations, the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.	**MGSE9-12.G.SRT.2** Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain, using similarity transformations, the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
MGSE9-12.G.SRT.3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	**MGSE9-12.G.SRT.3** Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
Prove theorems involving similarity	**Prove theorems involving similarity**
MGSE9-12.G.SRT.4 Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, (and its converse); the Pythagorean Theorem using triangle similarity.	**MGSE9-12.G.SRT.4** Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, (and its converse); the Pythagorean Theorem using triangle similarity.
MGSE9-12.G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	**MGSE9-12.G.SRT.5** Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
Define trigonometric ratios and solve problems involving right triangles	**Define trigonometric ratios and solve problems involving right triangles**
MGSE9-12.G.SRT.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	**MGSE9-12.G.SRT.6** Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
MGSE9-12.G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles.	**MGSE9-12.G.SRT.7** Explain and use the relationship between the sine and cosine of complementary angles.
MGSE9-12.G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem	**MGSE9-12.G.SRT.8** Use trigonometric ratios and the Pythagorean Theorem

to solve right triangles in applied problems.	to solve right triangles in applied problems.
Circles	**Circles**
Understand and apply theorems about circles **MGSE9-12.G.C.1** Understand that all circles are similar. **MGSE9-12.G.C.2** Identify and describe relationships among inscribed angles, radii, chords, tangents, and secants. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle. **MGSE9-12.G.C.3** Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. **MGSE9-12.G.C.4** Construct a tangent line from a point outside a given circle to the circle. **Find arc lengths and areas of sectors of circles** **MGSE9-12.G.C.5** Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.	**Understand and apply theorems about circles** **MGSE9-12.G.C.1** Understand that all circles are similar. **MGSE9-12.G.C.2** Identify and describe relationships among inscribed angles, radii, chords, tangents, and secants. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle. **MGSE9-12.G.C.3** Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. **MGSE9-12.G.C.4** Construct a tangent line from a point outside a given circle to the circle. **Find arc lengths and areas of sectors of circles** **MGSE9-12.G.C.5** Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
Expressing Geometric Properties with Equations	**Expressing Geometric Properties with Equations**
Translate between the geometric description and the equation for a conic section **MGSE9-12.G.GPE.1** Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center	**Translate between the geometric description and the equation for a conic section** **MGSE9-12.G.GPE.1** 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. **<u>Use coordinates to prove simple geometric theorems algebraically</u>** **MGSE9-12.G.GPE.4** Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0,2).* (Focus on quadrilaterals, right triangles, and circles.)	and radius of a circle given by an equation. **<u>Use coordinates to prove simple geometric theorems algebraically</u>** **MGSE9-12.G.GPE.4** Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0,2).* (Focus on quadrilaterals, right triangles, and circles.) **MGSE9-12.G.GPE.5** Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). **MGSE9-12.G.GPE.6** Find the point on a directed line segment between two given points that partitions the segment in a given ratio. **MGSE9-12.G.GPE.7** Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.
Geometric Measurement and Dimension	**Geometric Measurement and Dimension**
<u>Explain volume formulas and use them to solve problems</u> **MGSE9-12.G.GMD.1** Give informal arguments for geometric formulas. a. Give informal arguments for the formulas of the circumference of a circle and area of a circle using dissection arguments and informal limit arguments. b. Give informal arguments for the formula of the volume of a cylinder, pyramid, and cone using Cavalieri's principle. **MGSE9-12.G.GMD.2** Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.	**<u>Explain volume formulas and use them to solve problems</u>** **MGSE9-12.G.GMD.1** Give informal arguments for geometric formulas. a. Give informal arguments for the formulas of the circumference of a circle and area of a circle using dissection arguments and informal limit arguments. b. Give informal arguments for the formula of the volume of a cylinder, pyramid, and cone using Cavalieri's principle. **MGSE9-12.G.GMD.2** Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.

MGSE9-12.G.GMD.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. **<u>Visualize relationships between two-dimensional and three-dimensional objects</u>** **MGSE9-12.G.GMD.4** Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	**MGSE9-12.G.GMD.3** Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. **<u>Visualize relationships between two-dimensional and three-dimensional objects</u>** **MGSE9-12.G.GMD.4** Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
Modeling with Geometry	**Modeling with Geometry**
<u>Apply geometric concepts in modeling situations</u> **MGSE9-12.G.MG.1** Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). **MGSE9-12.G.MG.2** Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). **MGSE9-12.G.MG.3** Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).	**<u>Apply geometric concepts in modeling situations</u>** **MGSE9-12.G.MG.1** Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). **MGSE9-12.G.MG.2** Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). **MGSE9-12.G.MG.3** Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).
Interpreting Categorical and Quantitative Data	
<u>Summarize, represent, and interpret data on two categorical and quantitative variables</u> **MGSE9-12.S.ID.6** Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. **MGSE9-12.S.ID.6a** Decide which type of function is most appropriate by observing graphed data, charted data, or by analysis of context to generate a	

viable (rough) function of best fit. Use this function to solve problems in context. Emphasize ~~linear,~~ quadratic ~~and exponential~~ models.	
Conditional Probability and the Rules of Probability	**Conditional Probability and the Rules of Probability**
<u>Understand independence and conditional probability and use them to interpret data</u> **MGSE9-12.S.CP.1** Describe categories of events as subsets of a sample space using unions, intersections, or complements of other events (*or, and, not*). **MGSE9-12.S.CP.2** Understand that if two events A and B are independent, the probability of A and B occurring together is the product of their probabilities, and that if the probability of two events A and B occurring together is the product of their probabilities, the two events are independent. **MGSE9-12.S.CP.3** Understand the conditional probability of A given B as P (A and B)/P(B). Interpret independence of A and B in terms of conditional probability; that is, the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B. **MGSE9-12.S.CP.4** Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, use collected data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results*. **MGSE9-12.S.CP.5** Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*	**<u>Understand independence and conditional probability and use them to interpret data</u>** **MGSE9-12.S.CP.1** Describe categories of events as subsets of a sample space using unions, intersections, or complements of other events (*or, and, not*). **MGSE9-12.S.CP.2** Understand that if two events A and B are independent, the probability of A and B occurring together is the product of their probabilities, and that if the probability of two events A and B occurring together is the product of their probabilities, the two events are independent. **MGSE9-12.S.CP.3** Understand the conditional probability of A given B as P (A and B)/P(B). Interpret independence of A and B in terms of conditional probability; that is, the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B. **MGSE9-12.S.CP.4** Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, use collected data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results*. **MGSE9-12.S.CP.5** Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*

<u>Use the rules of probability to compute probabilities of compound events in a uniform probability model</u> **MGSE9-12.S.CP.6** Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in context. **MGSE9-12.S.CP.7** Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answers in context.	**<u>Use the rules of probability to compute probabilities of compound events in a uniform probability model</u>** **MGSE9-12.S.CP.6** Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in context. **MGSE9-12.S.CP.7** Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answers in context.