Memorial Middle School Report Card Overview
8th Grade Mathematics Rubric

What is Standards-Based Instruction and Assessment?

- Focuses on children's progress with specific skills
- Skills align to the New Jersey Student Learning Standards
- Instruction is connected to these standards
- Students are assessed in terms of meeting these standards

What does a 1, 2, 3, and 4 mean?

Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
The student does not yet demonstrate progress toward **initial** foundational skills of the topic	The student demonstrates some proficiency in **foundational** skills of the topic	The student demonstrates proficiency in **all grade level** skills of the topic	The student demonstrates understanding and performance **beyond** proficiency and has exceeded the standard.

Marking Period 1
Geometry

Experiment with transformations using physical models.   **Standard: 8.G.A.1 and 8.G.A.2**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1	The student is unable to: ● Verify that when a reflection, rotation, and/or translation is performed: 　○ the same lines have the same length. 　○ the same angles have the same measurement. 　○ the same line segments have the same length. 　○ parallel lines remain the same. ● Identify that **two figures are congruent** if one can be obtained from the other by a sequence of rigid transformations. ● Describe a sequence of transformations in written form of a proof.	The student sometimes can: ● Verify that when a reflection, rotation, and/or translation is performed: 　○ the same lines have the same length. 　○ the same angles have the same measurement. 　○ the same line segments have the same length. 　○ parallel lines remain the same. ● Identify that **two figures are congruent** if one can be obtained from the other by a sequence of rigid transformations. ● Describe a sequence of transformations in written form of a proof.	The student consistently can: ● Verify that when a reflection, rotation, and/or translation is performed: 　○ the same lines have the same length. 　○ the same angles have the same measurement. 　○ the same line segments have the same length. 　○ parallel lines remain the same. ● Identify that **two figures are congruent** if one can be obtained from the other by a sequence of rigid transformations. ● Describe a sequence of transformations in written form of a proof.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Verifies when **ANY** transformation is formed, all the measurements remain the same. ● Dilates, translates, and reflects two-dimensional figures on a coordinate plane. ● Identifies that two figures are congruent if one can be obtained from the other by a sequence of rigid transformations. ● Identifies that two figures are similar if one can be obtained from the other by a sequence of dilations and transformations. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**
2/3/4	*Will not be assessed during this time*			

Describe the effects of a sequence of transformations.

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1	The student is unable to: • Dilate, translate, and reflect two-dimensional figures on a coordinate plane. • Describe the effects of dilations, translations, rotations, and reflections using coordinates. • Identify that two figures are congruent if one can be obtained from the other by a sequence of rigid transformations. • Identify that two figures are similar if one can be obtained from the other by a sequence of dilations and transformations. • Describe a sequence of transformations **by mapping a two-dimensional figure.**	The student sometimes can: • Dilate, translate, and reflect two-dimensional figures on a coordinate plane. • Describe the effects of dilations, translations, rotations, and reflections using coordinates. • Identify that two figures are congruent if one can be obtained from the other by a sequence of rigid transformations. • Identify that two figures are similar if one can be obtained from the other by a sequence of dilations and transformations. • Describe a sequence of transformations **by mapping a two-dimensional figure.**	The student consistently can: • Dilate, translate, and reflect two-dimensional figures on a coordinate plane. • Describe the effects of dilations, translations, rotations, and reflections using coordinates. • Identify that two figures are congruent if one can be obtained from the other by a sequence of rigid transformations. • Identify that two figures are similar if one can be obtained from the other by a sequence of dilations and transformations. • Describe a sequence of transformations **by mapping a two-dimensional figure.**	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: • Dilates, translates, and reflects two-dimensional figures on a coordinate plane. • Identifies that two figures are congruent and/or similar if one can be obtained from the other by a sequence of rigid transformations. • Describes a sequence of transformations **by mapping a two-dimensional figure.** • **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**
2/3/4	_Will not be assessed during this time_			

Marking Period 2

Expressions and Equations

Analyze and solve linear equations and pairs of simultaneous linear equations.   **Standards: 8.EE.C.7 and 8.EE.C.8**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
2	The student is unable to: ● Demonstrate points of intersection as one, infinitely many, or no solution(s). ● Show which outcomes is the case by writing in the form x = a, a = a, or a = b. ● Solve linear equations in one variable with rational number coefficients, including using distributive property and combining like terms. ● Solve systems of two linear equations in two variables algebraically. ● Estimate solutions of two linear equations in two variables by graphing. ● Determine the number of solutions a system of linear equations will have. ● Solve a system of linear equations modeling real-world and mathematical problems.	The student sometimes can: ● Demonstrate points of intersection as one, infinitely many, or no solution(s). ● Show which outcomes is the case by writing in the form x = a, a = a, or a = b. ● Solve linear equations in one variable with rational number coefficients, including using distributive property and combining like terms. ● Solve systems of two linear equations in two variables algebraically. ● Estimate solutions of two linear equations in two variables by graphing. ● Determine the number of solutions a system of linear equations will have. ● Solve a system of linear equations modeling real-world and mathematical problems.	The student consistently can: ● Demonstrate points of intersection as one, infinitely many, or no solution(s). ● Show which outcomes is the case by writing in the form x = a, a = a, or a = b. ● Solve linear equations in one variable with rational number coefficients, including using distributive property and combining like terms. ● Solve systems of two linear equations in two variables algebraically. ● Estimate solutions of two linear equations in two variables by graphing. ● Determine the number of solutions a system of linear equations will have. ● Solve a system of linear equations modeling real-world and mathematical problems.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Demonstrates analysis of infinitely many, one or no solution(s). ● Shows which outcomes is the case by writing in the form x = a, a = a, or a = b. ● Solve systems of two linear equations in two variables algebraically or through estimating by graphing. ● Determines the number of solutions with ease. ● Solve a system of linear equations modeling real-world and mathematical problems. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Makes connections between proportional relationships, lines, and linear equations.   **Standards: 8.EE.B.5 and 8.EE.B.6**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/3/4	_**Will not be assessed during this time.**_			
2	The student is unable to: - Recognize proportional relationship's unit rate is the slope of the graph and represented in various models (i.e. ordered pairs, table, equation, phrases, etc.). - Explain why the slope is the same between any two distinct points on a non-vertical line by drawing similar right triangles and comparing the ratios of their sides. - Derive the equation y = mx for a line through the origin. - Derive the equation y = mx + b for a line intersecting the y-axis at b.	The student sometimes can: - Recognize proportional relationship's unit rate is the slope of the graph and represented in various models (i.e. ordered pairs, table, equation, phrases, etc.). - Explain why the slope is the same between any two distinct points on a non-vertical line by drawing similar right triangles and comparing the ratios of their sides. - Derive the equation y = mx for a line through the origin. - Derive the equation y = mx + b for a line intersecting the y-axis at b.	The student consistently can: - Recognize proportional relationship's unit rate is the slope of the graph and represented in various models (i.e. ordered pairs, table, equation, phrases, etc.). - Explain why the slope is the same between any two distinct points on a non-vertical line by drawing similar right triangles and comparing the ratios of their sides. - Derive the equation y = mx for a line through the origin. - Derive the equation y = mx + b for a line intersecting the y-axis at b.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: - Recognizes the proportional relationship's unit rate is the slope of the graph and represented in various models (i.e. ordered pairs, table, equation, phrases, etc.). - Explains why the slope is the same between any two distinct points on a non-vertical line by drawing similar right triangles and comparing the ratios of their sides. - Derives the equation y = mx for a line through the origin and intersecting the y-axis at b. **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Geometry

Understands congruence and similarity using angle relationships.   **Standard: 8.G.A.5**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
2	The student is unable to: ● Identify that when parallel lines are cut by a transversal, corresponding, alternate interior, and alternate exterior angles are congruent. ● Use facts about interior angles and exterior angles to construct an informal argument. ● Show understanding that the sum of three angles in a triangle equals 180 degrees.	The student sometimes can: ● Identify that when parallel lines are cut by a transversal, corresponding, alternate interior, and alternate exterior angles are congruent. ● Use facts about interior angles and exterior angles to construct an informal argument. ● Show understanding that the sum of three angles in a triangle equals 180 degrees.	The student consistently can: ● Identify that when parallel lines are cut by a transversal, corresponding, alternate interior, and alternate exterior angles are congruent. ● Use facts about interior angles and exterior angles to construct an informal argument. ● Show understanding that the sum of three angles in a triangle equals 180 degrees.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Identifies that when parallel lines are cut by a transversal, corresponding, alternate interior, and alternate exterior angles are congruent. ● Uses facts about interior angles and exterior angles to construct an informal argument. ● Understands the sum of three angles in any triangle equals 180 degrees. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**
1/3/4	<u>*Will not be assessed during this time*</u>			

Functions

Define, evaluate, and compare functions. ▮▮▮▮▮▮▮▮ **Standards: 8.F.A.1 and 8.F.A.2**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/3/4	_Will not be assessed during this time._			
2	The student is unable to: ● Express a function as a rule that assigns to each input exactly one output. ● Graph of a function is the set of ordered pairs consisting of an input and the corresponding output. ● Compare properties such as 　○ **rate of change** 　○ **Intercepts** 　○ **domain and range of two functions each represented in a different way.**	The student sometimes can: ● Express a function as a rule that assigns to each input exactly one output. ● Graph of a function is the set of ordered pairs consisting of an input and the corresponding output. ● Compare properties such as 　○ **rate of change** 　○ **Intercepts** 　○ **domain and range of two functions each represented in a different way.**	The student consistently can: ● Express a function as a rule that assigns to each input exactly one output. ● Graph of a function is the set of ordered pairs consisting of an input and the corresponding output. ● Compare properties such as 　○ **rate of change** 　○ **Intercepts** 　○ **domain and range of two functions each represented in a different way.**	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Identifies that the graph of a function is the set of ordered pairs consisting of an input and the corresponding output. ● Compares properties such as rate of change, intercepts, domain and range of two functions each represented in a different way. ● Gives any example of nonlinear functions. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Interpret the equation y = mx + b (slope of a line). ==highlighted== **Standard: 8.F.A.3**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/3/4	_**Will not be assessed during this time.**_			

2	The student is unable to:
	● Graph linear equations in the form of y = mx +b.
	● Give examples of nonlinear functions.
	● Interpret a set of points (x, y) that form a straight line on a graph.
	● Determine if a given equation is a linear equation in the form of y = mx + b.
	● Solve any real world problem provided.
	● Create linear equations in the form of y = mx +b from a real world problem.
	● Identify the following terms as:
	  ○ **m = slope.**
	  ○ **b = y-intercept.**
	  ○ **y = y coordinate.**
	  ○ **x = x coordinate.**
		The student sometimes can:
		● Graph linear equations in the form of y = mx +b.
		● Give examples of nonlinear functions.
		● Interpret a set of points (x, y) that form a straight line on a graph.
		● Determine if a given equation is a linear equation in the form of y = mx + b.
		● Solve any real world problem provided.
		● Create linear equations in the form of y = mx +b from a real world problem.
		● Identify the following terms as:
		  ○ **m = slope.**
		  ○ **b = y-intercept.**
		  ○ **y = y coordinate.**
		  ○ **x = x coordinate.**
			The student consistently can:
			● Graph linear equations in the form of y = mx +b.
			● Give examples of nonlinear functions.
			● Interpret a set of points (x, y) that form a straight line on a graph.
			● Determine if a given equation is a linear equation in the form of y = mx + b.
			● Solve any real world problem provided.
			● Create linear equations in the form of y = mx +b from a real world problem.
			● Identify the following terms as:
			  ○ **m = slope.**
			  ○ **b = y-intercept.**
			  ○ **y = y coordinate.**
			  ○ **x = x coordinate.**
				Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she:
				
				● Compares properties such as rate of change, intercepts, domain and range of two functions each represented in a different way.
				● Graphs linear equations (y = mx +b).
				● Gives any example of nonlinear functions.
				● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Marking Period 3

The Number System

Know that there are numbers that are not rational that can be approximated.   **Standards: 8.NS.A.1 and 8.NS.A.2**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
3/4	The student is unable to: ● Distinguish that numbers that are not rational are irrational. ● Demonstrate that every number has a decimal expansion, and rational numbers either terminate in zeros or repeats. ● Convert a repeating decimal to a rational number. ● Estimate the value of irrational numbers using rational approximations. ● Use rational approximations of irrational numbers to compare size. ● Use rational approximations of irrational numbers to locate on a number line.	The student sometimes can: ● Distinguish that numbers that are not rational are irrational. ● Demonstrate that every number has a decimal expansion, and rational numbers either terminate in zeros or repeats. ● Convert a repeating decimal to a rational number. ● Estimate the value of irrational numbers using rational approximations. ● Use rational approximations of irrational numbers to compare size. ● Use rational approximations of irrational numbers to locate on a number line.	The student consistently can: ● Distinguish that numbers that are not rational are irrational. ● Demonstrate that every number has a decimal expansion, and rational numbers either terminate in zeros or repeats. ● Convert a repeating decimal to a rational number. ● Estimate the value of irrational numbers using rational approximations. ● Use rational approximations of irrational numbers to compare size. ● Use rational approximations of irrational numbers to locate on a number line.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Distinguishes between rational and irrational through decimal expansion or termination in zeros. ● Converts a repeating decimal to a rational number. ● Estimates the value of irrational numbers using rational approximations. ● Uses rational approximations of irrational numbers to compare size and locate on a number line. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Grade 8 expectations for this standard are considered supportive clusters.

Expressions and Equations

Work with radicals and integer exponents. **Standards: 8.EE.A.1 and 8.EE.A.2**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/2	_**Will not be assessed during this time.**_			
3/4	The student is unable to: ● Define and express the properties of integer exponents. ● Determine two numerical expressions involving integer exponents are equivalent. ● Generate equivalent expressions using properties of exponents. ● Evaluate square roots of perfect squares and cube roots of perfect cubes, and irrational. ● Use square root and cube root symbols to represent solutions to equations in the form $x^2 = p$ and $x^3 = p$.	The student sometimes can: ● Define and express the properties of integer exponents. ● Determine two numerical expressions involving integer exponents are equivalent. ● Generate equivalent expressions using properties of exponents. ● Evaluate square roots of perfect squares and cube roots of perfect cubes, and irrational. ● Use square root and cube root symbols to represent solutions to equations in the form $x^2 = p$ and $x^3 = p$.	The student consistently can: ● Define and express the properties of integer exponents. ● Determine two numerical expressions involving integer exponents are equivalent. ● Generate equivalent expressions using properties of exponents. ● Evaluate square roots of perfect squares and cube roots of perfect cubes, and irrational. ● Use square root and cube root symbols to represent solutions to equations in the form $x^2 = p$ and $x^3 = p$.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Defines and expresses the properties of integer exponents. ● Determines two numerical expressions involving integer exponents are equivalent. ● Generates equivalent expressions using properties of exponents. ● Evaluates square roots of perfect squares and cube roots of perfect cubes, and irrational. ● Uses square root and cube root symbols to represent solutions to equations in the form $x^2 = p$ and $x^3 = p$. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Express numbers in scientific notation.   **Standards: 8.EE.A.3 and 8.EE.A.4**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/2/4	*Will not be assessed during this time.*			
3	The student is unable to: ● Estimate a very large or very small number as a single digit times an integer power of ten. ● Express how many times larger a quantity is compared to another (single digit times an integer power of ten). ● Add, subtract, multiply, and divide numbers expressed in scientific notation and/or is in decimal notation. ● Choose appropriate units to represent measurements.	The student sometimes can: ● Estimate a very large or very small number as a single digit times an integer power of ten. ● Express how many times larger a quantity is compared to another (single digit times an integer power of ten). ● Add, subtract, multiply, and divide numbers expressed in scientific notation and/or is in decimal notation. ● Choose appropriate units to represent measurements.	The student consistently can: ● Estimate a very large or very small number as a single digit times an integer power of ten. ● Express how many times larger a quantity is compared to another (single digit times an integer power of ten). ● Add, subtract, multiply, and divide numbers expressed in scientific notation and/or is in decimal notation. ● Choose appropriate units to represent measurements.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Estimates a very large or very small number as a single digit times an integer power of ten. ● Expresses how many times larger a quantity is compared to another (single digit times an integer power of ten). ● Adds, subtracts, multiplies, and divides numbers expressed in scientific notation and/or is in decimal notation. ● Chooses appropriate units to represent measurements. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Functions

Standards: 8.F.B.4 and 8.F.B.5

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/2/4	*Will not be assessed during this time.*			
3	The student is unable to: • Construct a function to model a linear relationship between two quantities. • Determine the rate of change and initial value of a 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 function in terms of the situation it models. • Describe qualitatively the functional relationships between two quantities by analyzing a graph. • Sketch a graph that represents a real world problem in verbal form.	The student sometimes can: • Construct a function to model a linear relationship between two quantities. • Determine the rate of change and initial value of a 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 function in terms of the situation it models. • Describe qualitatively the functional relationships between two quantities by analyzing a graph. • Sketch a graph that represents a real world problem in verbal form.	The student consistently can: • Construct a function to model a linear relationship between two quantities. • Determine the rate of change and initial value of a 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 function in terms of the situation it models. • Describe qualitatively the functional relationships between two quantities by analyzing a graph. • Sketch a graph that represents a real world problem in verbal form.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: • Constructs a function to model a linear relationship between two quantities. • Determines the rate of change and initial value of a function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. • Interprets the rate of change and initial value of a function in terms of the situation it models. • Describes qualitatively the functional relationships between two quantities by graph analysis. • **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Marking Period 4

The Number System

Know that there are numbers that are not rational that can be approximated.   **Standards: 8.NS.A.1 and 8.NS.A.2**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
3/4	The student is unable to: ● Distinguish that numbers that are not rational are irrational. ● Demonstrate that every number has a decimal expansion, and rational numbers either terminate in zeros or repeats. ● Convert a repeating decimal to a rational number. ● Estimate the value of irrational numbers using rational approximations. ● Use rational approximations of irrational numbers to compare size. ● Use rational approximations of irrational numbers to locate on a number line.	The student sometimes can: ● Distinguish that numbers that are not rational are irrational. ● Demonstrate that every number has a decimal expansion, and rational numbers either terminate in zeros or repeats. ● Convert a repeating decimal to a rational number. ● Estimate the value of irrational numbers using rational approximations. ● Use rational approximations of irrational numbers to compare size. ● Use rational approximations of irrational numbers to locate on a number line.	The student consistently can: ● Distinguish that numbers that are not rational are irrational. ● Demonstrate that every number has a decimal expansion, and rational numbers either terminate in zeros or repeats. ● Convert a repeating decimal to a rational number. ● Estimate the value of irrational numbers using rational approximations. ● Use rational approximations of irrational numbers to compare size. ● Use rational approximations of irrational numbers to locate on a number line.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Distinguishes between rational and irrational through decimal expansion or termination in zeros. ● Converts a repeating decimal to a rational number. ● Estimates the value of irrational numbers using rational approximations. ● Uses rational approximations of irrational numbers to compare size and locate on a number line. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**
	Grade 8 expectations for this standard are considered supportive clusters.			

Expressions and Equations

Work with radicals and integer exponents. |

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/2	_**Will not be assessed during this time.**_			
3/4	The student is unable to: - Define and express the properties of integer exponents. - Determine two numerical expressions involving integer exponents are equivalent. - Generate equivalent expressions using properties of exponents. - Evaluate square roots of perfect squares and cube roots of perfect cubes, and irrational. - Use square root and cube root symbols to represent solutions to equations in the form $x^2 = p$ and $x^3 = p$.	The student sometimes can: - Define and express the properties of integer exponents. - Determine two numerical expressions involving integer exponents are equivalent. - Generate equivalent expressions using properties of exponents. - Evaluate square roots of perfect squares and cube roots of perfect cubes, and irrational. - Use square root and cube root symbols to represent solutions to equations in the form $x^2 = p$ and $x^3 = p$.	The student consistently can: - Define and express the properties of integer exponents. - Determine two numerical expressions involving integer exponents are equivalent. - Generate equivalent expressions using properties of exponents. - Evaluate square roots of perfect squares and cube roots of perfect cubes, and irrational. - Use square root and cube root symbols to represent solutions to equations in the form $x^2 = p$ and $x^3 = p$.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: - Defines and expresses the properties of integer exponents. - Determines two numerical expressions involving integer exponents are equivalent. - Generates equivalent expressions using properties of exponents. - Evaluates square roots of perfect squares and cube roots of perfect cubes, and irrational. - Uses square root and cube root symbols to represent solutions to equations in the form $x^2 = p$ and $x^3 = p$. **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Geometry

Understand and apply the Pythagorean Theorem.   **Standard: 8.G.B.6, 8.G.B.7 and 8.G.B.8**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/2/3	_**Will not be assessed during this time**_			
4	The student is unable to: ● Identify that the Pythagorean Theorem states that the square of the hypotenuse of a right triangle is equal to the sum of the squares of the other two sides. ● Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world problems. ● Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. ● Generate written proof explaining the Pythagorean Theorem and its converse.	The student sometimes can: ● Identify that the Pythagorean Theorem states that the square of the hypotenuse of a right triangle is equal to the sum of the squares of the other two sides. ● Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world problems. ● Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. ● Generate written proof explaining the Pythagorean Theorem and its converse.	The student consistently can: ● Identify that the Pythagorean Theorem states that the square of the hypotenuse of a right triangle is equal to the sum of the squares of the other two sides. ● Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world problems. ● Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. ● Generate written proof explaining the Pythagorean Theorem and its converse.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Identifies that the Pythagorean Theorem states that the square of the hypotenuse of a right triangle is equal to the sum of the squares of the other two sides. ● Applies the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world problems. ● Applies the Pythagorean Theorem to find the distance between two points in a coordinate system. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. 　　　　　 **Standard: 8.G.C.9**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/2/3	_**Will not be assessed during this time**_			
4	The student is unable to: ● Apply the formulas for volume of a cone, cylinder, or sphere in a real-world context. ● Calculate the volume of a cone, cylinder, or sphere. ● Find a missing dimension of a cone, cylinder or sphere given its volume.	The student sometimes can: ● Apply the formulas for volume of a cone, cylinder, or sphere in a real-world context. ● Calculate the volume of a cone, cylinder, or sphere. ● Find a missing dimension of a cone, cylinder or sphere given its volume.	The student consistently can: ● Apply the formulas for volume of a cone, cylinder, or sphere in a real-world context. ● Calculate the volume of a cone, cylinder, or sphere. ● Find a missing dimension of a cone, cylinder or sphere given its volume.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Applies the formulas for volume of a cone, cylinder, or sphere in a real-world context. ● Calculates the volume of a cone, cylinder, or sphere. ● Finds a missing dimension of a cone, cylinder or sphere given its volume. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Grade 8 expectations for these standards are considered additional clusters.

Statistics and Probability

Investigate patterns of association in bivariate data in two-way tables.　　　　　　　　**Standards: 8.SP.A.3 and 8.SP.A.4**

Marking Period	Not Meeting Expectations (NM- 1)	Approaching Grade Level Standards (AS-2)	Meets Grade Level Standards (MS-3)	Exceeds Grade Level Standards (ES-4)
1/2/3	_**Will not be assessed during this time**_			
4	The student is unable to: ● Interpret the slope and intercept in the context of bivariate measurement data using the equation of a linear model. ● Identify that two-way tables can be used to show patterns of association in categorical data. ● Construct a two-way table summarizing data on two categorical variables collected from the same subjects. ● Interpret a two-way table by identifying joint frequencies and calculating marginal frequencies. ● Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	The student sometimes can: ● Interpret the slope and intercept in the context of bivariate measurement data using the equation of a linear model. ● Identify that two-way tables can be used to show patterns of association in categorical data. ● Construct a two-way table summarizing data on two categorical variables collected from the same subjects. ● Interpret a two-way table by identifying joint frequencies and calculating marginal frequencies. ● Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	The student consistently can: ● Interpret the slope and intercept in the context of bivariate measurement data using the equation of a linear model. ● Identify that two-way tables can be used to show patterns of association in categorical data. ● Construct a two-way table summarizing data on two categorical variables collected from the same subjects. ● Interpret a two-way table by identifying joint frequencies and calculating marginal frequencies. ● Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	Student meets all the criteria for "meets standards," independently challenges him/herself, and makes insightful connections to other ideas and concepts while he/she: ● Interprets the slope and intercept in the context of bivariate measurement data using the equation of a linear model. ● Identifies and constructs that two-way tables can be used to show patterns of association in categorical data collected. ● Interprets a two-way table by identifying joint frequencies and calculating marginal frequencies between two variables. ● **Assesses the reasonableness of their answer using mental strategies or conceptual understanding.**

Grade 8 expectations for these standards are considered supportive clusters.