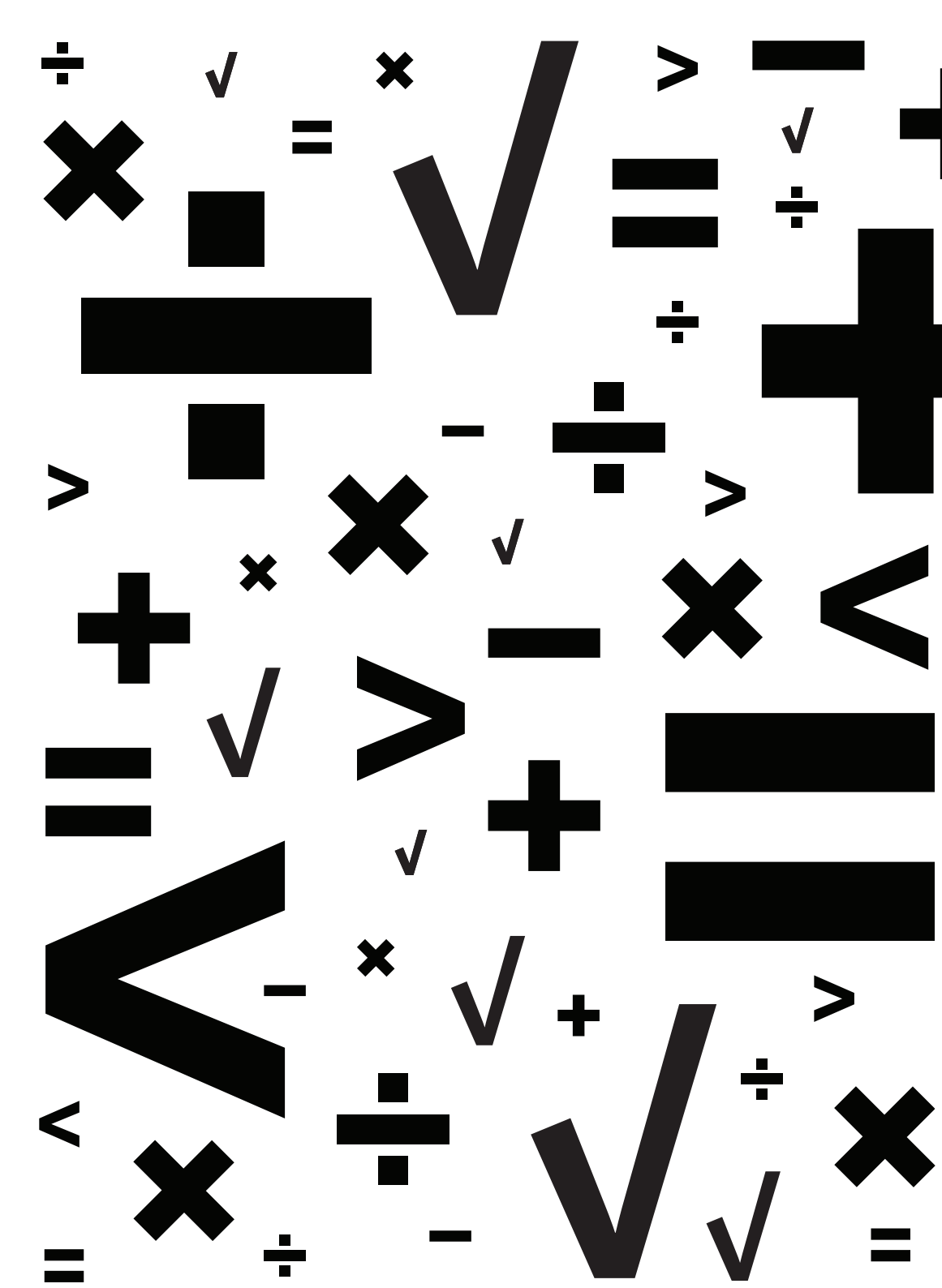
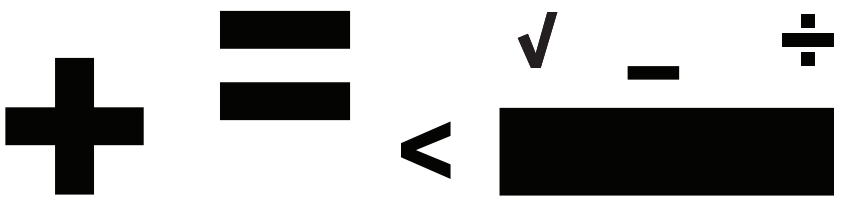


SCORING CRITERIA

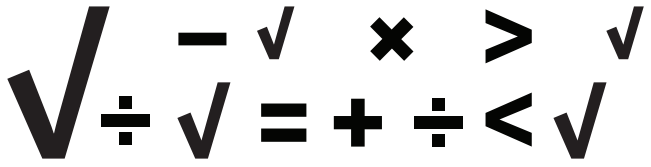
MATH

MATHEMATICAL REASONING
AND COMMUNICATION

RIDE Rhode Island Department of Education



SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | K-2



Students will...
reason mathematically to solve problems and communicate with others.

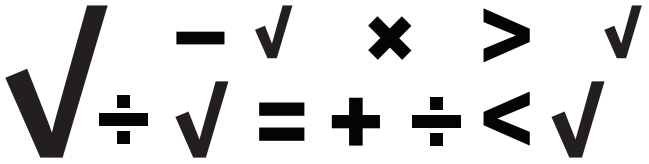
A PERFORMANCE INDICATOR
Observe, identify and analyze situations in order to ask questions and understand and describe problems. (MP1,2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Make observations about situations in order to ask questions and understand and describe problems.	**Make** observations about situations and **identify** relevant information in order to ask questions and understand and describe problems.	**Observe, identify** and **analyze** situations in order to ask questions and understand and describe problems.	**Evaluate** the relevance and importance of parts of situations that define problems and **ask** strategic questions in order to understand and describe problems.

B PERFORMANCE INDICATOR
Select strategies and appropriate tools to develop and implement a plan to solve problems. (MP1,5)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify strategies and/or tools that could be used to solve problems.	**Select** strategies and tools to solve a problem and **apply** initial strategies to attempt to solve problems.	**Select** strategies and appropriate tools to develop and implement a plan to solve problems.	**Design, implement,** and **refine** a plan including appropriate tools and strategies, to solve problems.

SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | K-2 *(CONTINUED)*



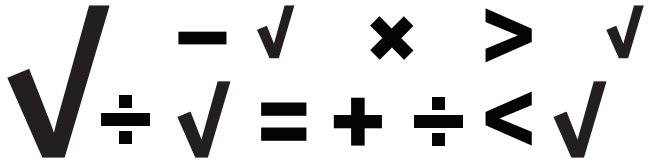
C PERFORMANCE INDICATOR
Explain whether an answer is mathematically and contextually reasonable. (MP1,6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	State whether an answer is reasonable.	**Describe** whether an answer is reasonable.	**Explain** whether an answer is mathematically and contextually reasonable.	**Justify** that an answer is mathematically and contextually reasonable by referring to the problem and **identify** possible revisions if needed.

D PERFORMANCE INDICATOR
Evaluate, justify, and defend the relative effectiveness of problem solving processes using logical argument. (MP1,3)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Explain whether the problem solving process was effective.	**Describe** the relative effectiveness of the problem solving process using supporting evidence.	**Evaluate, justify,** and **defend** the relative effectiveness of problem solving processes using logical argument.	**Evaluate, justify,** and **defend** the relative effectiveness of problem solving processes using logical argument and propose an improvement(s) to the process.

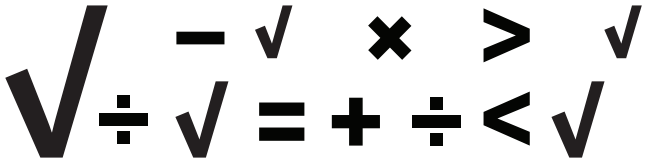
SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | K-2 *(CONTINUED)*



E PERFORMANCE INDICATOR
Precisely communicate mathematical understandings and connections using a variety of representations. (MP1, 3, 6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Communicate understandings or connections **using** at least one representation.	**Communicate** understandings and connections **using** appropriate representation(s).	Precisely **communicate** mathematical understandings and connections **using** a variety of representations.	Precisely **communicate** mathematical understandings and connections in an organized way **using** appropriate mathematical language and a variety of representations.

SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 3-5



Students will...
reason mathematically to solve problems and communicate with others.

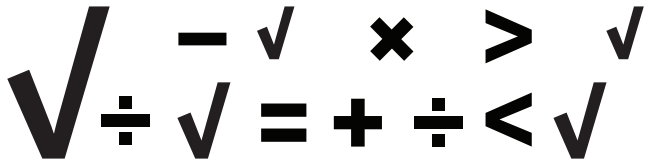
A PERFORMANCE INDICATOR
Observe, identify and analyze situations in order to ask questions and understand and describe problems. (MP1,2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Make observations about situations in order to ask questions and understand and describe problems.	**Make** observations about situations and **identify** relevant information in order to ask questions and understand and describe problems.	**Observe, identify** and **analyze** situations in order to ask questions and understand and describe problems.	**Evaluate** the relevance and importance of parts of situations that define problems and **ask** strategic questions in order to understand and describe problems.

B PERFORMANCE INDICATOR
Select strategies and appropriate tools to develop and implement a plan to solve problems. (MP1,5)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify strategies and/or tools that could be used to solve problems.	**Select** strategies and tools to solve a problem and **apply** initial strategies to attempt to solve problems.	**Select** strategies and appropriate tools to develop and implement a plan to solve problems.	**Design, implement,** and **refine** a plan including appropriate tools and strategies, to solve problems.

SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 3-5 *(CONTINUED)*



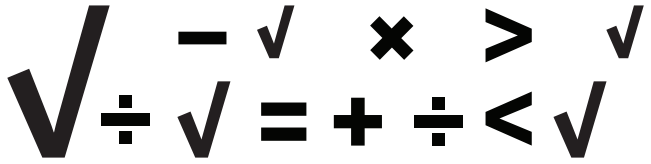
C PERFORMANCE INDICATOR
Explain whether an answer is mathematically and contextually reasonable. (MP1,6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	State whether an answer is reasonable.	**Describe** whether an answer is reasonable.	**Explain** whether an answer is mathematically and contextually reasonable.	**Justify** that an answer is mathematically and contextually reasonable by referring to the problem and **identify** possible revisions if needed.

D PERFORMANCE INDICATOR
Evaluate, justify, and defend the relative effectiveness of problem solving processes using logical argument. (MP1,3)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Explain whether the problem solving process was effective.	**Describe** the relative effectiveness of the problem solving process using supporting evidence.	**Evaluate, justify,** and **defend** the relative effectiveness of problem solving processes using logical argument.	**Evaluate, justify,** and **defend** the relative effectiveness of problem solving processes using logical argument and **propose** an improvement(s) to the process.

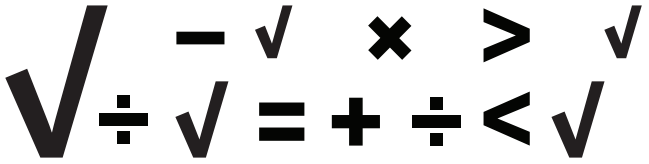
SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 3-5 *(CONTINUED)*



E PERFORMANCE INDICATOR
Precisely communicate mathematical understandings and connections using a variety of representations. (MP1, 3, 6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Communicate understandings or connections **using** at least one representation.	**Communicate** understandings and connections **using** appropriate representation(s).	Precisely **communicate** mathematical understandings and connections **using** a variety of representations.	Precisely **communicate** mathematical understandings and connections in an organized way **using** appropriate mathematical language and a variety of representations.

SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 6-8



Students will...
reason mathematically to solve problems and communicate with others.

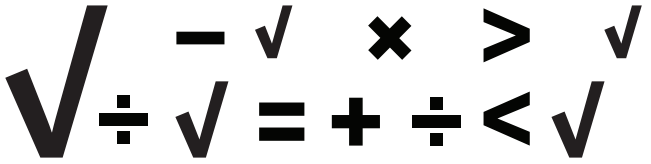
A PERFORMANCE INDICATOR
Observe, identify and analyze situations in order to ask questions and understand and describe problems. (MP1,2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Make observations about situations in order to ask questions and understand and describe problems.	**Make** observations about situations and **identify** relevant information in order to ask questions and understand and describe problems.	**Observe, identify** and **analyze** situations in order to ask questions and understand and describe problems.	**Evaluate** the relevance and importance of parts of situations that define problems and **ask** strategic questions in order to understand and describe problems.

B PERFORMANCE INDICATOR
Select strategies and appropriate tools to develop and implement a plan to solve problems. (MP1,5)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify strategies and/or tools that could be used to solve problems.	**Select** strategies and tools to solve a problem and **apply** initial strategies to attempt to solve problems.	**Select** strategies and appropriate tools to develop and implement a plan to solve problems.	**Design, implement,** and **refine** a plan including appropriate tools and strategies, to solve problems.

SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 6-8 *(CONTINUED)*



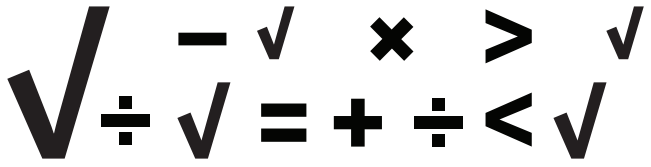
C PERFORMANCE INDICATOR
Explain whether an answer is mathematically and contextually reasonable. (MP1,6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	State whether an answer is reasonable.	**Describe** whether an answer is reasonable.	**Explain** whether an answer is mathematically and contextually reasonable.	**Justify** that an answer is mathematically and contextually reasonable by referring to the problem and **identify** possible revisions if needed.

D PERFORMANCE INDICATOR
Evaluate, justify, and defend the relative effectiveness of problem solving processes using logical argument. (MP1,3)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Explain whether the problem solving process was effective.	**Describe** the relative effectiveness of the problem solving process using supporting evidence.	**Evaluate, justify,** and **defend** the relative effectiveness of problem solving processes using logical argument.	**Evaluate, justify,** and **defend** the relative effectiveness of problem solving processes using logical argument and **propose** an improvement(s) to the process.

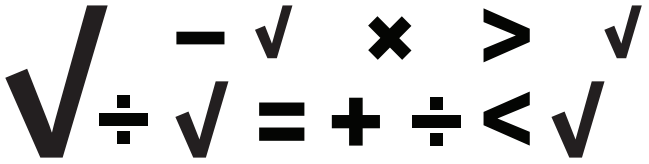
SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 6-8 *(CONTINUED)*



E PERFORMANCE INDICATOR
Precisely communicate mathematical understandings and connections using a variety of representations. (MP1, 3, 6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Communicate understandings or connections **using** at least one representation.	**Communicate** understandings and connections **using** appropriate representation(s).	Precisely **communicate** mathematical understandings and connections **using** a variety of representations.	Precisely **communicate** mathematical understandings and connections in an organized way **using** appropriate mathematical language and a variety of representations.

SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 9-12



Students will...
reason mathematically to solve problems and communicate with others.

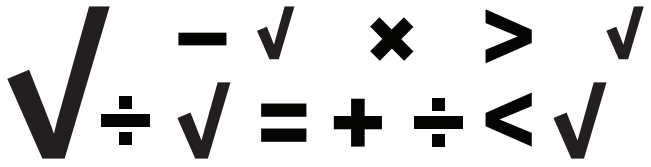
A PERFORMANCE INDICATOR
Observe, identify and analyze situations in order to ask questions and understand and describe problems. (MP1,2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Make observations about situations in order to ask questions and understand and describe problems.	**Make** observations about situations and **identify** relevant information in order to ask questions and understand and describe problem.	**Observe, identify** and **analyze** situations in order to ask questions and understand and describe problems.	**Evaluate** the relevance and importance of parts of situations that define problems and **ask** strategic questions in order to understand and describe problems.

B PERFORMANCE INDICATOR
Select strategies and appropriate tools to develop and implement a plan to solve problems. (MP1,5)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify strategies and/or tools that could be used to solve problems.	**Select** strategies and tools to solve a problem and **apply** initial strategies to attempt to solve problems.	**Select** strategies and appropriate tools to develop and implement a plan to solve problems.	**Design, implement,** and **refine** a plan including appropriate tools and strategies, to solve problems.

SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 9-12 *(CONTINUED)*



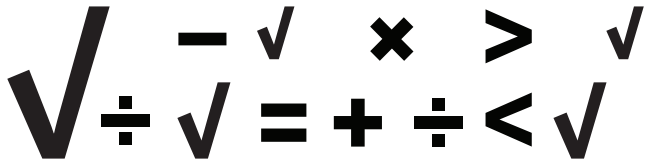
C PERFORMANCE INDICATOR
Explain whether an answer is mathematically and contextually reasonable. (MP1,6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	State whether an answer is reasonable.	**Describe** whether an answer is reasonable.	**Explain** whether an answer is mathematically and contextually reasonable.	**Justify** that an answer is mathematically and contextually reasonable by referring to the problem and **identify** possible revisions if needed.

D PERFORMANCE INDICATOR
Evaluate, justify, and defend the relative effectiveness of problem solving processes using logical argument. (MP1,3)

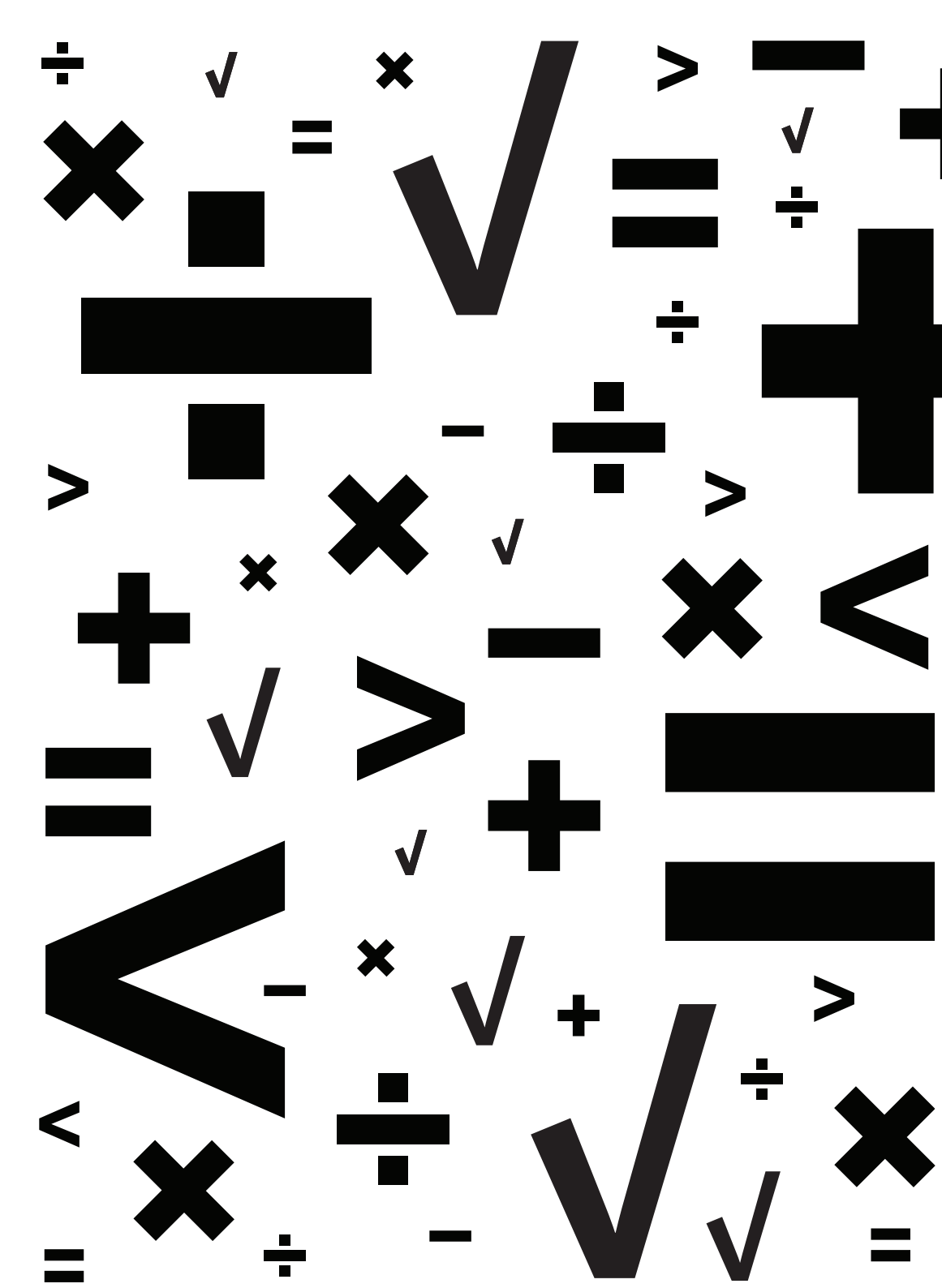
SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Explain whether the problem solving process was effective.	**Describe** the relative effectiveness of the problem solving process using supporting evidence.	**Evaluate, justify,** and **defend** the relative effectiveness of problem solving processes using logical argument.	**Evaluate, justify,** and **defend** the relative effectiveness of problem solving processes using logical argument and **propose** an improvement(s) to the process.

SCORING CRITERIA
MATH | MATHEMATICAL REASONING AND COMMUNICATION | 9-12 *(CONTINUED)*



E PERFORMANCE INDICATOR
Precisely communicate mathematical understandings and connections using a variety of representations. (MP1, 3, 6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Communicate understandings or connections **using** at least one representation.	**Communicate** understandings and connections **using** appropriate representation(s).	Precisely **communicate** mathematical understandings and connections **using** a variety of representations.	Precisely **communicate** mathematical understandings and connections in an organized way **using** appropriate mathematical language and a variety of representations.



SCORING CRITERIA

MATH
MODELING

GRADE K-2

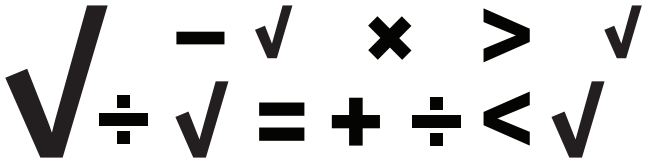
GRADE 3-5

GRADE 6-8

GRADE 9-12

RIDE Rhode Island Department of Education

SCORING CRITERIA
MATH | MODELING | K-2



Students will...
choose the appropriate mathematics to describe, understand and analyze real world situations.

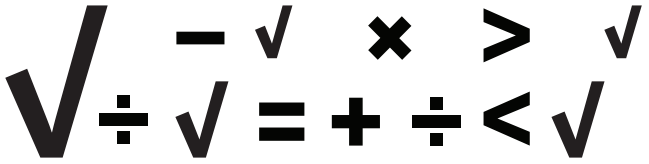
A PERFORMANCE INDICATOR
Create an appropriate model using numbers, quantities, and other representations to describe a relationship in a real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify elements in a real world situation.	**Identify** elements in a real world situation, **describe** a relationship between them, and **select** a representation.	**Create** an appropriate model using numbers, quantities, and other representations to describe a relationship in a real world situation.	**Explain** why the model is an effective representation of a real world situation.

B PERFORMANCE INDICATOR
Compare and critique different models for a real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify parts of different models for a real world situation.	**Compare** different models for a real world situation.	**Compare** and **critique** different models for a real world situation.	**Describe** how the model(s) could be improved to better represent the real world situation.

SCORING CRITERIA
MATH | MODELING | K-2 *(CONTINUED)*



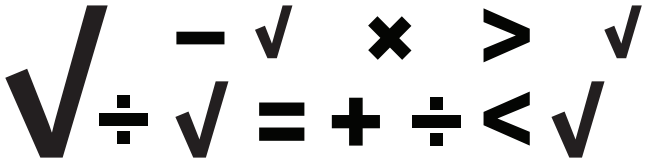
C PERFORMANCE INDICATOR
Apply models to real world situations. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Select a model to represent a real world situation.	**Describe** how parts of a selected model correspond to elements of a real world situation.	**Apply** models to real world situations.	**Evaluate** the effectiveness of a model used to represent a real world situation.

D PERFORMANCE INDICATOR
Interpret the results of a mathematical model in the context of the original real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the results of a mathematical model.	**Identify** the results of a mathematical model referring to the context of the original real world situation.	**Interpret** the results of a mathematical model in the context of the original real world situation.	**Formulate** a hypothesis about actions that can be taken based on the interpretation of the results of a mathematical model in the context of the original real world situation.

SCORING CRITERIA
MATH | MODELING | 3-5



Students will...
choose the appropriate mathematics to describe, understand and analyze real world situations.

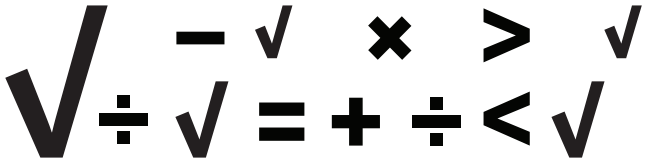
A PERFORMANCE INDICATOR
Create an appropriate model using numbers, quantities, and other representations to describe a relationship in a real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify elements in a real world situation.	**Identify** elements in a real world situation, **describe** a relationship between them, and **select** a representation.	**Create** an appropriate model using numbers, quantities, and other representations to describe a relationship in a real world situation.	**Explain** why the model is an effective representation of a real world situation.

B PERFORMANCE INDICATOR
Compare and critique different models for a real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify parts of different models for a real world situation.	**Compare** different models for a real world situation.	**Compare** and **critique** different models for a real world situation.	**Describe** how the model(s) could be improved to better represent the real world situation.

SCORING CRITERIA
MATH | MODELING | 3-5 *(CONTINUED)*



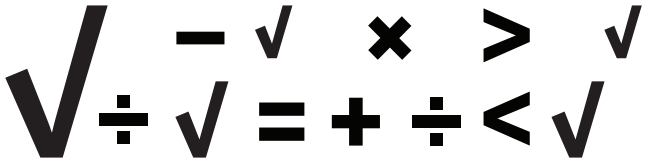
C PERFORMANCE INDICATOR
Apply models to real world situations. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Select a model to represent a real world situation.	**Describe** how parts of a selected model correspond to elements of a real world situation.	**Apply** models to real world situations.	**Evaluate** the effectiveness of a model used to represent a real world situation.

D PERFORMANCE INDICATOR
Interpret the results of a mathematical model in the context of the original real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the results of a mathematical model.	**Identify** the results of a mathematical model referring to the context of the original real world situation.	**Interpret** the results of a mathematical model in the context of the original real world situation.	**Formulate** a hypothesis about actions that can be taken based on the interpretation of the results of a mathematical model in the context of the original real world situation.

SCORING CRITERIA
MATH | MODELING | 6-8



Students will...
choose the appropriate mathematics to describe, understand and analyze real world situations.

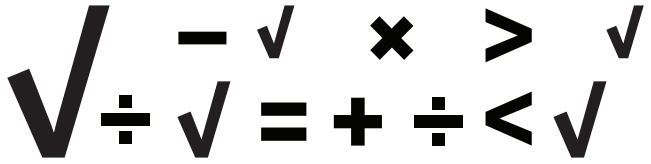
A PERFORMANCE INDICATOR
Create an appropriate model using numbers, quantities, and other representations to describe a relationship in a real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify elements in a real world situation.	**Identify** elements in a real world situation, **describe** a relationship between them, and **select** a representation.	**Create** an appropriate model using numbers, quantities, and other representations to describe a relationship in a real world situation.	**Explain** why the model is an effective representation of a real world situation.

B PERFORMANCE INDICATOR
Compare and critique different models for a real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify parts of different models for a real world situation.	**Compare** different models for a real world situation.	**Compare** and **critique** different models for a real world situation.	**Describe** how the model(s) could be improved to better represent the real world situation.

SCORING CRITERIA
MATH | MODELING | 6-8 *(CONTINUED)*



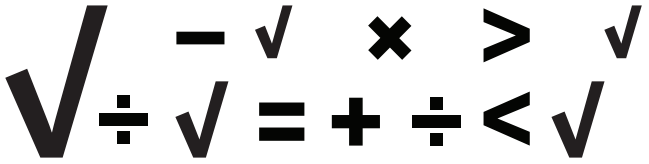
C PERFORMANCE INDICATOR
Apply models to real world situations. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Select a model to represent a real world situation.	**Describe** how parts of a selected model correspond to elements of a real world situation.	**Apply** models to real world situations.	**Evaluate** the effectiveness of a model used to represent a real world situation.

D PERFORMANCE INDICATOR
Interpret the results of a mathematical model in the context of the original real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the results of a mathematical model.	**Identify** the results of a mathematical model referring to the context of the original real world situation.	**Interpret** the results of a mathematical model in the context of the original real world situation.	**Formulate** a hypothesis about actions that can be taken based on the interpretation of the results of a mathematical model in the context of the original real world situation.

SCORING CRITERIA
MATH | MODELING | 9-12



Students will...
choose the appropriate mathematics to describe, understand and analyze real world situations.

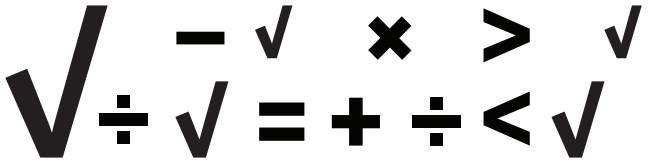
A PERFORMANCE INDICATOR
Create an appropriate model using numbers, quantities, and other representations to describe a relationship in a real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify elements in a real world situation.	**Identify** elements in a real world situation, **describe** a relationship between them, and **select** a representation.	**Create** an appropriate model using numbers, quantities, and other representations to describe a relationship in a real world situation.	**Explain** why the model is an effective representation of a real world situation.

B PERFORMANCE INDICATOR
Compare and critique different models for a real world situation. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify parts of different models for a real world situation.	**Compare** different models for a real world situation.	**Compare** and **critique** different models for a real world situation.	**Describe** how the model(s) could be improved to better represent the real world situation.

SCORING CRITERIA
MATH | MODELING | 9-12 *(CONTINUED)*

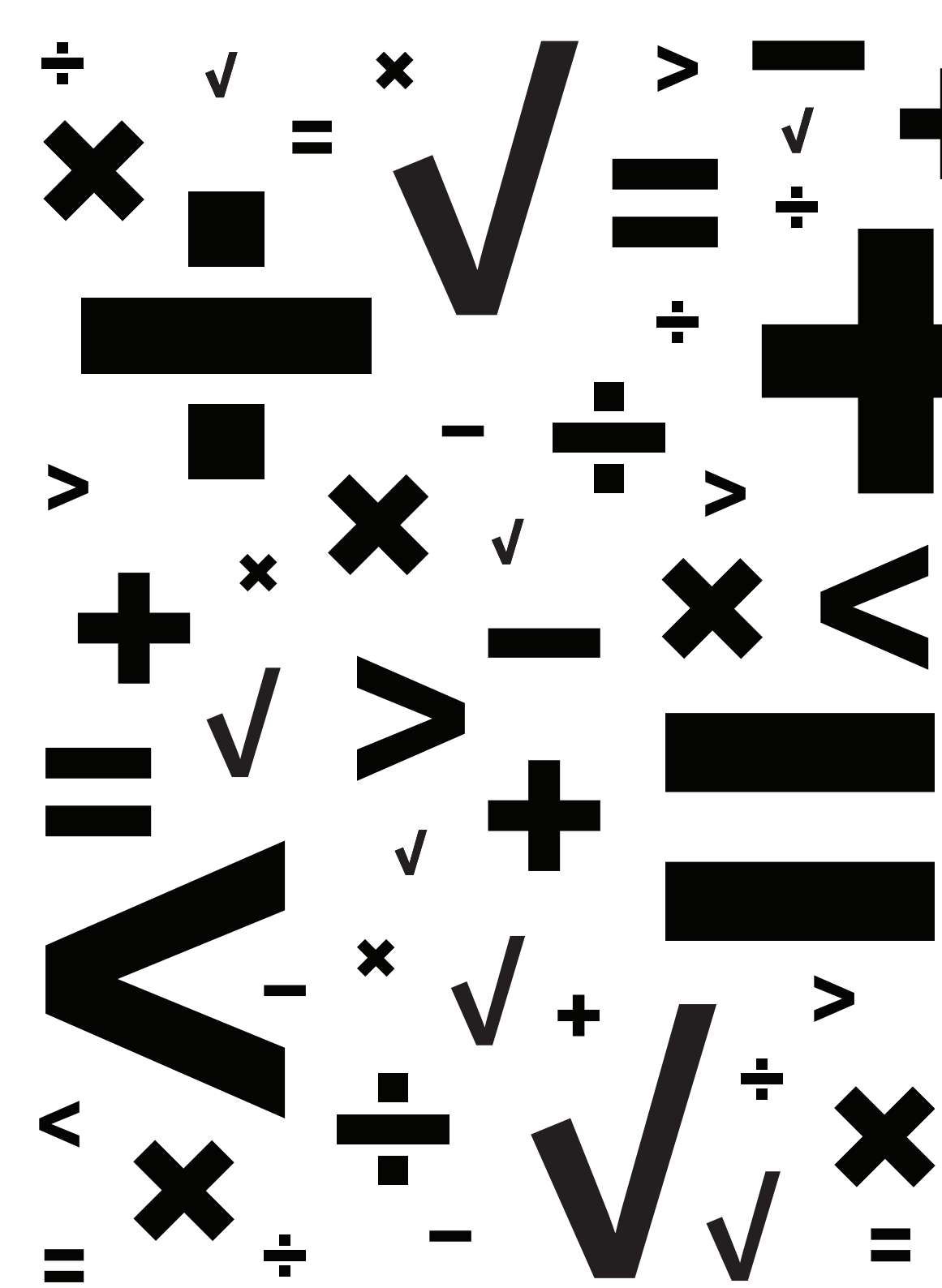


C PERFORMANCE INDICATOR
Apply models to real world situations. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Select a model to represent a real world situation.	**Describe** how parts of a selected model correspond to elements of a real world situation.	**Apply** models to real world situations.	**Evaluate** the effectiveness of a model used to represent a real world situation.

D PERFORMANCE INDICATOR
Interpret the results of a mathematical model in the context of the original real world situation and adjust the model as needed. (MP4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the results of a mathematical model.	**Identify** the results of a mathematical model referring to the context of the original real world situation.	**Interpret** the results of a mathematical model in the context of the original real world situation.	**Formulate** a hypothesis about actions that can be taken based on the interpretation of the results of a mathematical model in the context of the original real world situation.

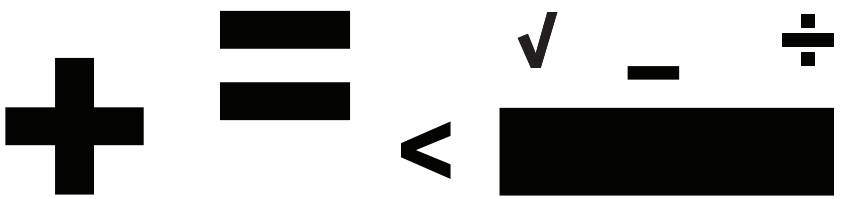


SCORING CRITERIA

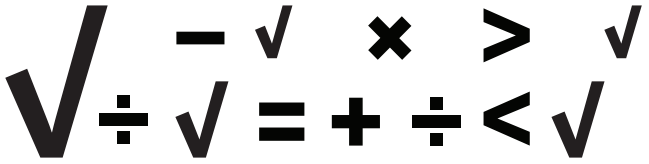
MATH

NUMBER AND QUANTITY

RIDE Rhode Island Department of Education



SCORING CRITERIA
MATH | NUMBER AND QUANTITY | K-2



Students will...
reason, describe, and analyze quantitatively using number and units to solve problems.

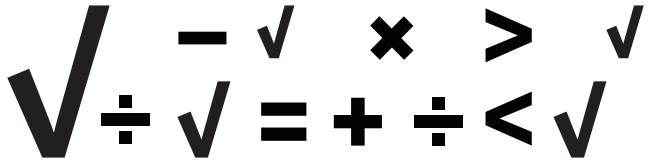
A PERFORMANCE INDICATOR
Use counting to identify quantities. (K.CC.1, 2, 4, 5, 6; 1.NBT.1; 2.OA.3; 2.NBT.2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Pair each object with one and only one number name when counting.	**Use** the counting sequence to **pair** one and only one number name to an object.	**Use** counting to **identify** quantities.	**Apply** a variety of counting strategies to identify quantities.

B PERFORMANCE INDICATOR
Explain and make generalizations about the patterns in the place value system. (K. NBT.1; 1.NBT.2, 3; 2.NBT.1, 2, 3, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify pattern(s) in the place value system.	**Describe** patterns in the place value system.	**Explain** and **make** generalizations about the patterns in the place value system.	**Apply** generalizations about the place value system to **make** comparisons.

SCORING CRITERIA
MATH | NUMBER AND QUANTITY | K-2 *(CONTINUED)*



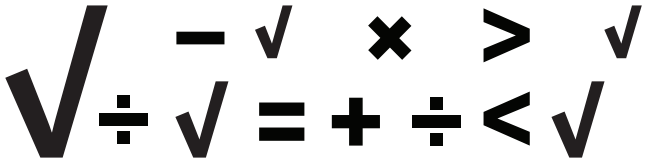
C PERFORMANCE INDICATOR
Perform single- and multi-digit addition and subtraction with whole numbers using understanding of place value and the properties of operations. (K.OA.2, 5; 1.OA.5, 6, 8; 1.NBT.4, 5, 6; 2.OA.2; 2.NBT.5, 6, 7, 8, 9)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Provide solutions to a single- and/or multi-digit addition and/or subtraction problems.	**Apply** understanding of properties of operations **or** place value to perform single- and multi-digit addition and/or subtraction.	**Perform** single- and multi-digit addition and subtraction with whole numbers **using** understanding of place value and the properties of operations.	**Demonstrate** multiple ways to **perform** single- and multi-digit addition and subtraction with whole numbers **using** understanding of place value and properties of operations.

D PERFORMANCE INDICATOR
Solve problems with addition and subtraction involving measurement concepts. (K.MD.2 ; 1.MD.B.3; 2.MD.5, 6, 7, 8)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify measurement elements to be added or subtracted.	**Represent** problems with addition and subtraction involving measurement concepts.	**Solve** problems with addition and subtraction involving measurement concepts.	**Demenstrate** multiple ways to solve problems with addition and subtraction involving measurement concepts.

SCORING CRITERIA
MATH | NUMBER AND QUANTITY | 3-5



Students will...
reason, describe, and analyze quantitatively using number and units to solve problems.

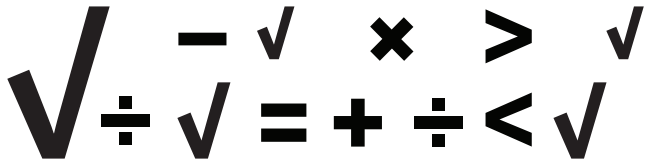
A PERFORMANCE INDICATOR
Explain and make generalizations about the patterns in the place value system. (4.NBT.1, 2; 5.NBT.1, 2, 3)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify pattern(s) in the place value system.	**Describe** patterns in the place value system.	**Explain** and **make** generalizations about the patterns in the place value system.	**Apply** generalizations about the place value system to **make** comparisons.

B PERFORMANCE INDICATOR
Perform single- and multi-digit arithmetic with the four operations with whole numbers and decimals using understanding of place value and the properties of operations. (3.OA.1, 2, 5, 7; 3.NBT.1, 2, 3; 4.NBT.4, 5, 6; 5.OA.1; 5.NBT.4, 5, 6, 7)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Provide a solution to single- and/or multi-digit arithmetic with the four operations with whole numbers and/or decimals.	**Apply** understanding of properties of operations **or** place value to **perform** single- and multi-digit arithmetic with the four operations with whole numbers and/or decimals.	**Perform** single- and multi-digit arithmetic with the four operations with whole numbers and decimals **using** an understanding of place value and the properties of operations.	**Demonstrate** multiple ways to **perform** single- and multi-digit arithmetic with the four operations with whole numbers and decimals **using** understanding of place value and the properties of operations.

SCORING CRITERIA
MATH | NUMBER AND QUANTITY | 3-5 *(CONTINUED)*



C PERFORMANCE INDICATOR
Solve problems involving measurement concepts using all four operations. (3.MD.1; 4.MD.1, 2; 5.MD.1)

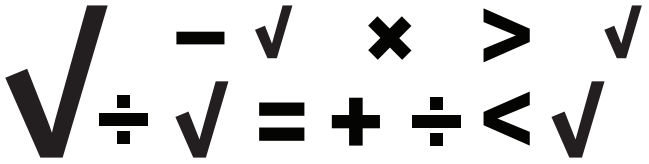
SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify measurement elements to be used in solving problems with all four operations.	**Represent** problems involving measurement concepts **using** all four operations.	**Solve** problems involving measurement concepts **using** all four operations.	**Demonstrate** multiple ways to solve problems involving measurement concepts using all four operations.

D PERFORMANCE INDICATOR
Solve fraction problems with all four operations by applying understanding of fraction as number, the concept of equivalency, and previous understanding of operations on whole numbers. (3.NF.1, 2, 3 ; 3.G.2; 4.NF. 1, 2, 3, 4, 5; 5.NF.1, 2, 3, 4, 5, 6, 7)*

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Demonstrate an understanding of fraction as number by **making** connections between unit fractions and whole numbers.*	**Solve** fraction problems with like denominators by **applying** understanding of fraction as number and previous understanding of operations on whole numbers.*	**Solve** fraction problems with all four operations by **applying** understanding of fraction as number, the concept of equivalency, and previous understanding of operations on whole numbers.*	**Solve** fraction problems involving multiple operations by **applying** understanding of fraction as number, the concept of equivalency, and previous understanding of operations on whole numbers.*

*Problem(s) do not need to require students to use all four operations, but students should be required to decipher between and select from the four operations. Division is limited to division of a unit fraction by a whole number and division of a whole number by a unit fraction (5.NF.7).

SCORING CRITERIA
MATH | NUMBER AND QUANTITY | 6-8



Students will...
reason, describe, and analyze quantitatively using number and units to solve problems.

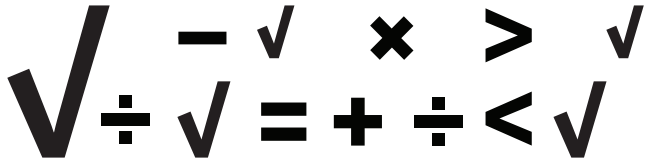
A PERFORMANCE INDICATOR
Compute fluently with multi-digit numbers and find common factors and multiples. (6.NS. 2, 3, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Provide a solution to computational problems with multi-digit numbers.	**Demonstrate** a strategy and **provide** a solution to computational problems with multi-digit numbers and **identify** common factors and multiples.	**Compute** fluently with multi-digit numbers and **find** common factors and multiples.	**Provide** an alternate strategy as a means of **checking** calculations.

B PERFORMANCE INDICATOR
Make and explain statements of order and comparisons of rational numbers. (6.NS.5, 6, 7)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify characteristics that can lead to the comparing and ordering of rational numbers.	**Make** statements of order and comparisons of rational numbers.	**Make** and **explain** statements of order and comparisons of rational numbers.	**Apply** understanding of statements of order and comparisons of rational numbers to solve real world problems.

SCORING CRITERIA
MATH | NUMBER AND QUANTITY | 6-8 *(CONTINUED)*



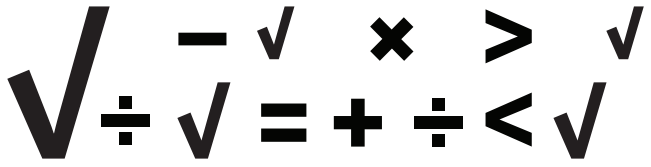
C PERFORMANCE INDICATOR
Solve real world and mathematical problems involving the four operations with rational numbers. (6.NS.1; 7.NS.1, 2, 3; 7.EE.3)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Provide a solution to mathematical and real world problems with rational numbers.	**Demonstrate** a strategy to **calculate** solutions to real world and mathematical problems with rational numbers.	**Solve** real world and mathematical problems involving the four operations with rational numbers.	**Justify** solutions to real world and mathematical problems involving the four operations with rational numbers.

D PERFORMANCE INDICATOR
Identify irrational numbers and approximate them with rational numbers. (8.NS.1, 2; 8.EE.2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify characteristics of rational and irrational numbers.	**Identify** numbers as rational or irrational numbers.	**Identify** irrational numbers and **approximate** them with rational numbers.	**Use** rational approximations to **compare** irrational numbers.

SCORING CRITERIA
MATH | NUMBER AND QUANTITY | 9-12



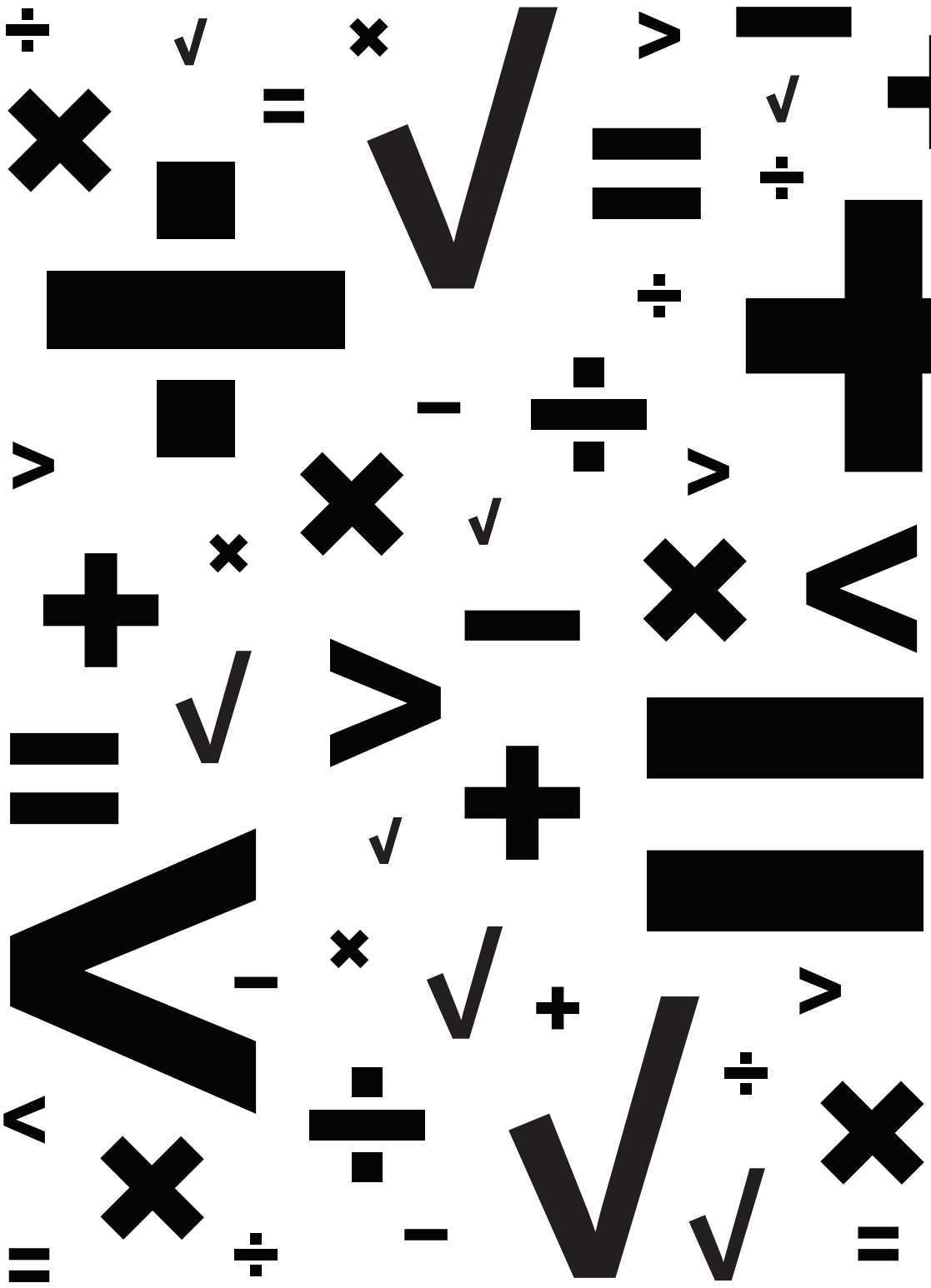
Students will...
reason, describe, and analyze quantitatively using number and units to solve problems.

A PERFORMANCE INDICATOR
Reason quantitatively and use units to solve problems. (HS.N-Q.A)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify relevant quantities and units to solve problems.	**Use** units or relevant quantities to provide solutions to problems.	**Reason** quantitatively and **use** units to solve problems.	**Justify** quantitative reasoning and use of units to solve problems.

B PERFORMANCE INDICATOR
Perform arithmetic operations and solve equations involving complex numbers. (HSN-CN.A.1,2; HSN-CN.C.7)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the characteristics of complex numbers.	**Perform** arithmetic operations using complex numbers. OR **Identify** conditions in which solutions are complex.	**Perform** arithmetic operations and **solve** equations involving complex numbers.	**Create** equations given complex solutions.



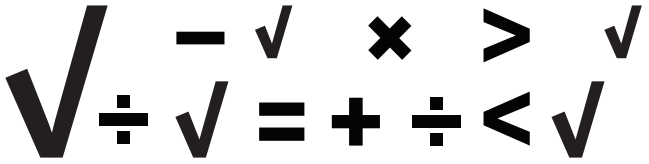
SCORING CRITERIA

MATH

FUNCTIONS &
ALGEBRAIC REASONING

RIDE Rhode Island Department of Education

SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | K-2



Students will...
create, interpret, use, and analyze expressions, equations and inequalities including recognizing when a relationship is a function and evaluating that function.

A PERFORMANCE INDICATOR
Represent and solve problems (of all problem types) using the relationship between addition and subtraction. (K.OA.1, 2, 3, 4; 1.OA.1, 2, 4, 8; 2.OA.1)

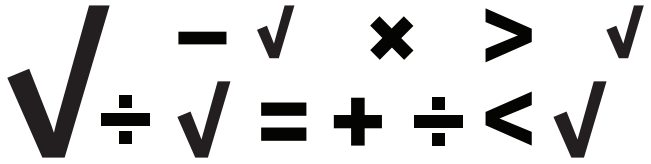
SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the appropriate operation in addition and subtraction situations.	**Represent** addition and subtraction problems.	**Represent** and **solve** problems (of all problem types) using the relationship between addition and subtraction.	**Create** multiple representations of addition and subtraction problems (of all problem types) and **explain** connections between the representations, the solutions, and the situation(s).

B PERFORMANCE INDICATOR
Apply the concept of equality and properties of operations to solve problems.* (1.OA.3, 7, 8)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify examples of the concept of equality and properties of operations.*	**Generate** equivalent expressions or equations **using** the concept of equality and properties of operations.*	**Apply** the concept of equality and properties of operations to solve problems.*	**Solve** problems by **applying** the concept of equality and properties of operations and **explain** connections between the representations, the solutions, and the situation(s).*

*Students need not use formal terms for these properties.

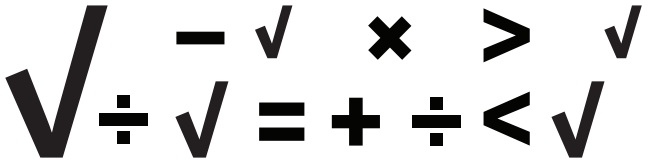
SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | K-2 *(CONTINUED)*



C PERFORMANCE INDICATOR
Observe and identify patterns and relationships. (K.CC.1 2, 3; K.NBT.1; 1.NBT.1, 2, 3; 2.OA.3; 2.NBT.1, 2, 3, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Make and **list** observations.	**Observe** and **identify** patterns.	**Observe** and **identify** patterns and relationships.	**Apply** understanding of patterns and relationships.

SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | 3-5



Students will...
create, interpret, use, and analyze expressions, equations and inequalities including recognizing when a relationship is a function and evaluating that function.

A PERFORMANCE INDICATOR
Represent and solve problems (of all problem types) involving the four operations using the relationship between addition/subtraction and multiplication/division.* (3.OA.3, 4, 6, 8; 4.OA.1, 2, 3)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the appropriate operation(s) in problem situations*.	**Represent** problems involving the four operations.*	**Represent** and **solve** problems (of all problem types) involving the four operations using the relationship between addition/subtraction and multiplication/division.*	**Create** multiple representations of problems (of all problem types) involving the four operations and use them to **justify** a solution.*

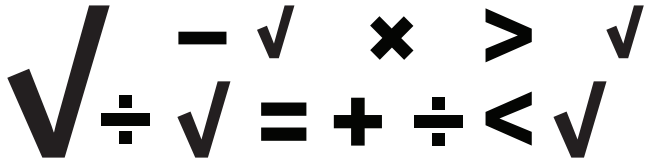
*Problem(s) do not need to require students to use all four operations but students should be required to decipher between and select from the four operations.

B PERFORMANCE INDICATOR
Apply the concept of equality and the properties of operations to solve problems.* (3.OA.4, 5)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify examples of the concept of equality and the properties of operations*.	**Generate** equivalent expressions or equations **using** the concept of equality and the properties of operations*.	**Apply** the concept of equality and the properties of operations* to solve problems.	**Solve** problems by **applying** the concept of equality and properties of operations and **explain** connections between the representations, the solution, and the situation(s).*

*Students need not use formal terms for these properties.

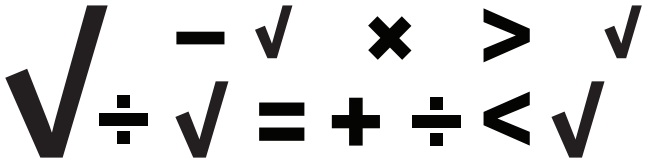
SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | 3-5 *(CONTINUED)*



C PERFORMANCE INDICATOR
Generate, analyze, and explain numerical patterns and relationships. (3.OA.9; 4.OA.4, 5; 5.OA.3; 5.NBT.2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify numerical patterns and relationships.	**Identify** and **explain** numerical patterns and relationships.	**Generate, analyze,** and **explain** numerical patterns and relationships.	**Apply** understanding of numerical patterns and relationships to solve problems.

SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | 6-8



Students will...
create, interpret, use, and analyze expressions, equations and inequalities including recognizing when a relationship is a function and evaluating that function.

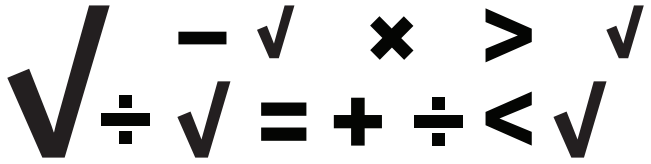
A PERFORMANCE INDICATOR
Use properties to create and evaluate equivalent expressions. (6.EE.1,2, 3, 4; 7.EE.1, 2; 8.EE.1, 2, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify equivalent expressions.	**Create** equivalent expressions.	**Use** properties to create and evaluate equivalent expressions.	**Explain** the use of properties to create and evaluate equivalent expressions.

B PERFORMANCE INDICATOR
Create and solve equations and inequalities in mathematical and real world problems. (6.EE.5-9; 7.EE.4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Write expressions to represent mathematical and real world problems.	**Create** equations and inequalities in mathematical and real world problems. OR **Solve** equations and inequalities in mathematical and real world problems.	**Create** and **solve** equations and inequalities in mathematical and real world problems.	**Justify** solutions for equations and inequalities in mathematical and real world problems.

SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | 6-8 *(CONTINUED)*



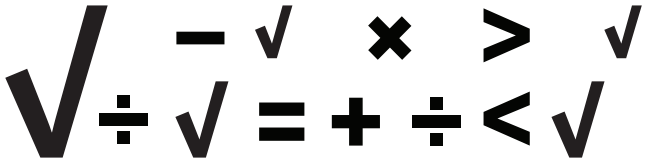
C PERFORMANCE INDICATOR
Analyze proportional relationships and use them to solve real world and mathematical problems. (6.RP.1, 2, 3; 7.RP.1, 2, 3; 7.G.1; 8.EE.5)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify proportional relationships in real world and mathematical problems.	**Represent** proportional relationships that can be used to solve real world and mathematical problems.	**Analyze** proportional relationships and use them to solve real world and mathematical problems.	**Justify** solutions to real world and mathematical problems involving proportional relationships.

D PERFORMANCE INDICATOR
Analyze, graph and solve linear equations and pairs of simultaneous linear equations to solve problems. (6.EE.9; 8.EE.7, 8)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Represent a relationship between two variables using a table, graph, or equation.	**Demonstrate** a strategy to determine solutions to linear equations and pairs of simultaneous linear equations to solve problems.	**Analyze, graph** and **solve** linear equations and pairs of simultaneous linear equations to solve problems.	**Justify** the solutions to linear equations and pairs of simultaneous linear equations used to solve problems.

SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | 6-8 *(CONTINUED)*



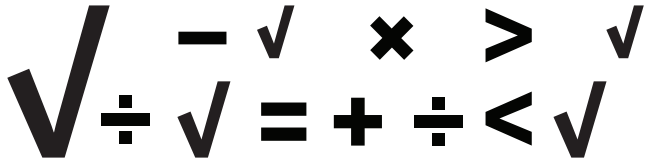
E PERFORMANCE INDICATOR
Identify and compare functions. (8.F.1, 2, 3)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify functions represented graphically, numerically in tables, algebraically, **or** by verbal descriptions.	**Identify** functions represented graphically, numerically in tables, algebraically, **and** by verbal descriptions.	**Identify** and **compare** functions.	**Draw** a conclusion or **make** a prediction based on the comparison of the functions.

F PERFORMANCE INDICATOR
Use functions to model relationships between two quantities. (8.F.4, 5)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Describe qualitatively the functional relationships modeled in graphs.	**Identify** rates of change and initial values from a graph, table, or description.	**Use** functions to model relationships between two quantities.	**Make** predictions based on a functional model demonstrating a relationship between two quantities.

SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | 9-12



Students will...
create, interpret, use, and analyze expressions, equations and inequalities including recognizing when a relationship is a function and evaluating that function.

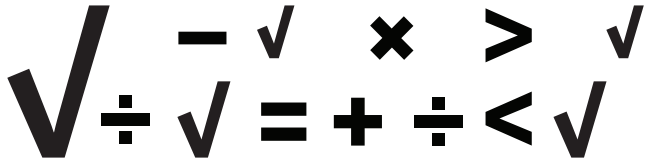
A PERFORMANCE INDICATOR
Interpret the structure of expressions and use it to solve problems. (HS.A-SSE.A; HS.A-SSE.B; HS.A-APR.A; HS.A-APR.D.6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify equivalent expressions.	**Write** expressions in equivalent forms.	**Interpret** the structure of expressions and **use** it to solve problems.	**Explain** and **justify** the rationale for transforming an expression by making connections to the problem.

B PERFORMANCE INDICATOR
Solve equations, systems, and inequalities symbolically and graphically. (HS.A-REI.B,C,D)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify an initial step or strategy.	**Demonstrate** a strategy to determine solutions to equations, systems, and inequalities algebraically or graphically.	**Solve** equations, systems, and inequalities symbolically and graphically.	**Justify** method chosen to determine solutions to equations, systems, and inequalities.

SCORING CRITERIA
MATH | FUNCTIONS & ALGEBRAIC REASONING | 9-12 *(CONTINUED)*

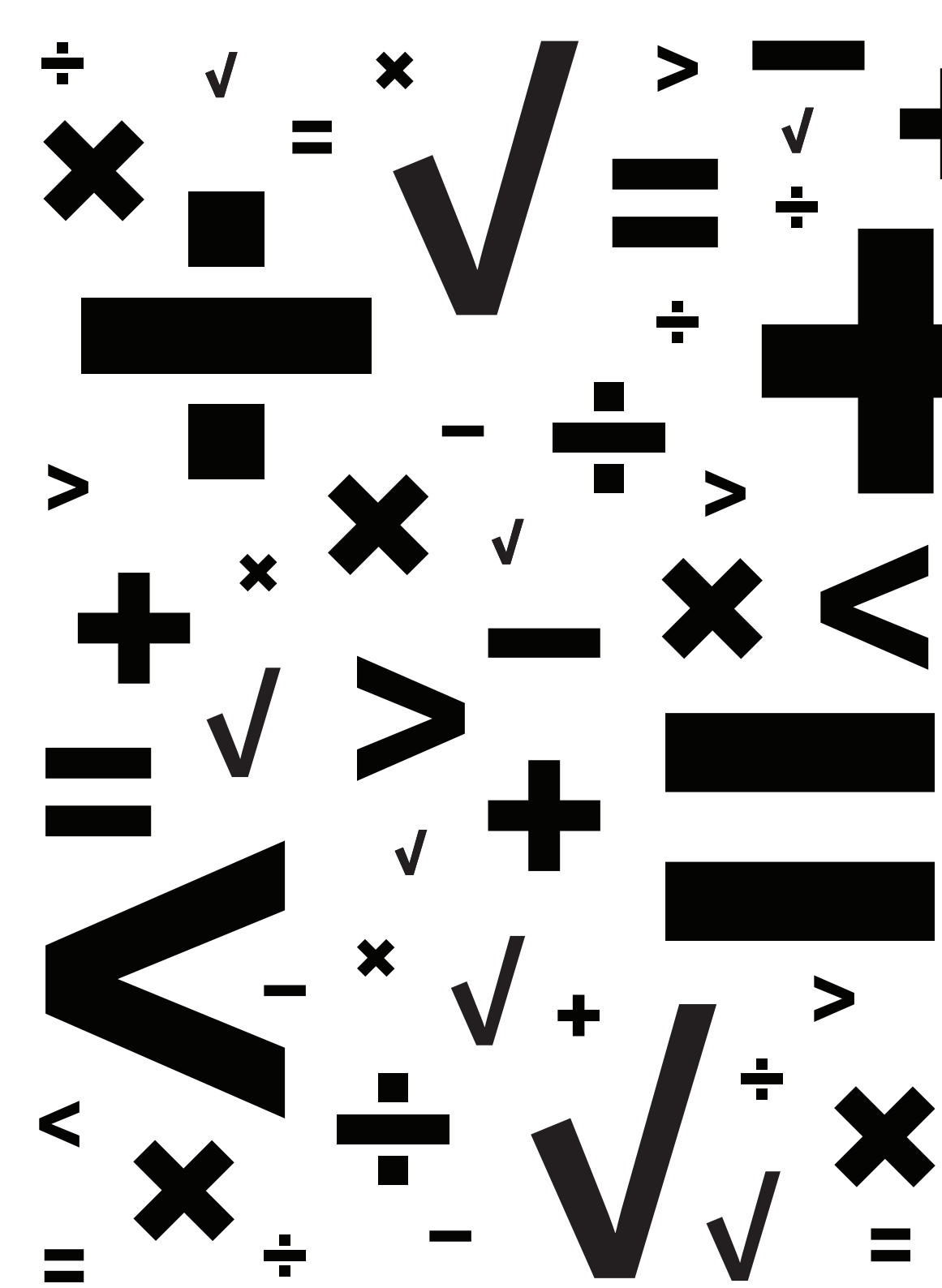


C PERFORMANCE INDICATOR
Use multiple representations to analyze and interpret functions in terms of their context. (HS.F-IF.B, C7)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Make observations connecting representation(s) of functions and their context.	**Use** multiple representations of functions to **show** key features.	**Use** multiple representations to **analyze** and **interpret** functions in terms of their context.	**Describe** how changes in context would influence key features.

D PERFORMANCE INDICATOR
Build functions to model relationships between quantities. (HS.F-BF.A; HS.F-LE.A, B)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify key elements needed to build functions and use context to determine function type.	**Identify** a recursive process to represent the relationship between variables.	**Build** functions to model relationships between quantities.	**Explain** the relationship between a function and the situation it models.



SCORING CRITERIA

MATH

GEOMETRY AND MEASUREMENT

GRADE K-2

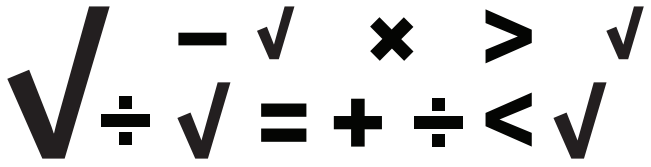
GRADE 3-5

GRADE 6-8

GRADE 9-12

RIDE Rhode Island Department of Education

SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | K-2



Students will...
apply concepts of geometry, spatial reasoning, and measurement in the context of real world problems.

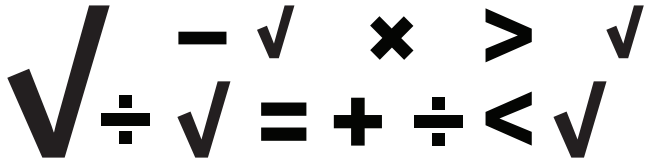
A PERFORMANCE INDICATOR
Describe and compare measurable attributes of objects. (K.MD.1, 2; 1.MD.1)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify attributes of objects.	**Describe** measurable attributes of objects.	**Describe** and **compare** measurable attributes of objects.	**Explain** the process used to make comparisons between objects.

B PERFORMANCE INDICATOR
Create, identify, and distinguish between shapes based on their defining attributes. (K.G.1, 2, 3, 4, 5, 6; 1.G.1, 2; 2.G.1)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify differences between defining and non-defining attributes of shapes.	**Identify** shapes based on their defining attributes.	**Create, identify,** and **distinguish** between shapes based on their defining attributes.	**Explain** how two or more shapes could belong to two different attribute categories.

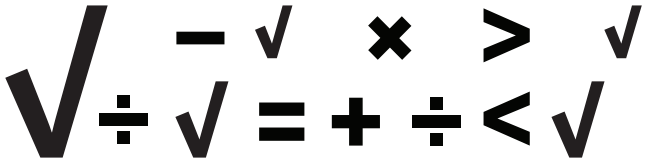
SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | K-2 *(CONTINUED)*



C PERFORMANCE INDICATOR
Use appropriate tools to measure. (1.MD.2; 2.MD.1, 2, 3, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	List potential tools to measure.	**Select** and **use** a tool to measure.	**Use** appropriate tools to measure.	**Estimate** a measure based on appropriate tool use.

SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | 3-5



Students will...
apply concepts of geometry, spatial reasoning, and measurement in the context of real world problems.

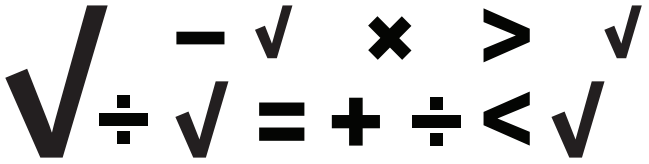
A PERFORMANCE INDICATOR
Graph points on the coordinate plane to solve real-world and mathematical problems. (5.G.1, 2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify ordered pairs on the coordinate plane.	**Graph** points on the coordinate plane.	**Graph** points on the coordinate plane to solve real-world and mathematical problems.	**Explain** the connection between points graphed on the coordinate plane and their representation as a solution to a real-world or mathematical problem.

B PERFORMANCE INDICATOR
Identify, distinguish, and classify 2D and 3D geometric figures based on their properties. (3.G.1; 4.G.1, 2, 3; 5.G.3, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the properties of 2D and 3D geometric figures.	**Identify** 2D and 3D geometric figures based on their properties.	**Identify, distinguish,** and **classify** 2D and 3D geometric figures based on their properties.	**Explain** how two or more geometric figures could belong to two different categories based on their properties.

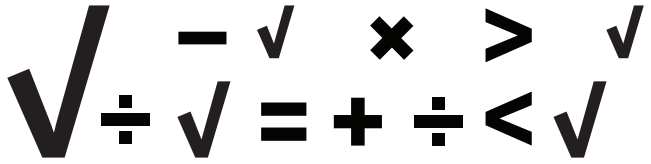
SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | 3-5 *(CONTINUED)*



C PERFORMANCE INDICATOR
Apply understanding of geometric measurement (angles, perimeter, area and volume) to solve real world problems. (3.MD.5, 6, 7; 4.MD.3, 5, 6, 7; 5.MD.3, 4, 5)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the type of geometric measurement (angles, perimeter, area and volume) needed to solve real world problems.	**Identify** information and initial steps needed to solve real world problems involving geometric measurement.	**Apply** understanding of geometric measurement (angles, perimeter, area and volume) to solve real world problems.	**Demonstrate** and **explain** alternate ways to solve real world problems using an understanding of geometric measurement (angles, perimeter, area and volume).

SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | 6-8



Students will...
apply concepts of geometry, spatial reasoning, and measurement in the context of real world problems.

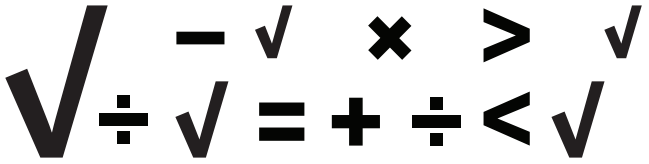
A PERFORMANCE INDICATOR
Use transformations to demonstrate congruence and similarity. (8.G.1, 2, 3, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify congruent and similar figures. OR **Demonstrate** transformations.	**Identify** congruent and similar figures and **demonstrate** transformations.	**Use** transformations to demonstrate congruence and similarity.	**Explain** why the transformation demonstrates congruence or similarity.

B PERFORMANCE INDICATOR
Apply the Pythagorean Theorem and its converse to solve real world and mathematical problems. (8.G.7, 8)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify and **describe** parts of the Pythagorean Theorem.	**Connect** relevant elements of real world and mathematical problems to the Pythagorean Theorem.	**Apply** the Pythagorean Theorem and its converse to solve real world and mathematical problems.	**Critique** solutions to real world or mathematical problems involving application of the Pythagorean Theorem.

SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | 6-8 *(CONTINUED)*

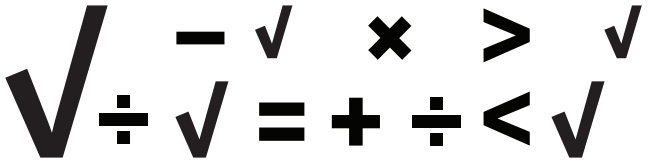


C PERFORMANCE INDICATOR

Apply understanding of geometric measurement (angles, length, area, surface area and volume) to solve real world problems. (6.G.1, 2, 3, 4; 7.G.4, 5, 6; 8G.9)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the type of geometric measurement (angles, length, area, surface area and volume) needed to solve real world problems.	**Identify** information and initial steps needed to solve real world problems involving geometric measurement.	**Apply** understanding of geometric measurement (angles, length, area, surface area and volume) to solve real world problems.	**Demonstrate** and **explain** alternate ways to solve real world problems using an understanding of geometric measurement (angles, length, area, surface area and volume).

SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | 9-12



Students will...
apply concepts of geometry, spatial reasoning, and measurement in the context of real world problems.

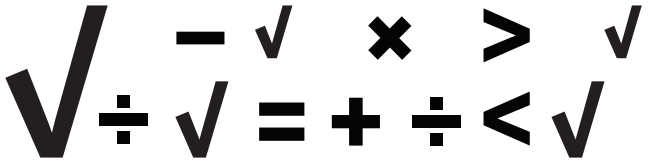
A PERFORMANCE INDICATOR
Use transformations to define congruence and similarity. (HS.G-CO.A,B; HS.G-SRT.A)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify and **perform** rigid transformations.	**Identify** and **perform** rigid and non-rigid transformations.	**Use** transformations to define congruence and similarity.	**Provide** an alternative transformation path to verify the defined congruence or similarity.

B PERFORMANCE INDICATOR
Demonstrate and explain proofs of geometric theorems. (HS.G-CO.C; HS.G-SRT.B4; HS.G-C.1)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Interpret given information to **formulate** an initial step to prove geometric theorems.	**Provide** a series of steps to prove geometric theorems.	**Demonstrate** and **explain** proofs of geometric theorems.	**Critique** the validity of proofs of geometric theorems.

SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | 9-12 *(CONTINUED)*



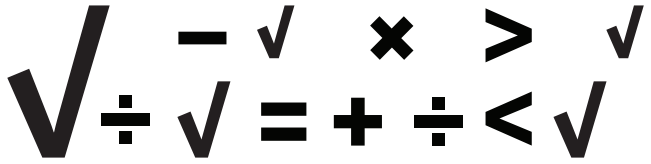
C PERFORMANCE INDICATOR
Use geometric properties and theorems to solve problems. (HS.G-SRT.B.5; C; HS.G-C.A.1,2,3, B.5; HS.G-GPE.B.4,5,7)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify the geometric properties and theorems needed to solve problems.	**Identify** geometric properties and theorems and initial steps needed to solve problems.	**Use** geometric properties and theorems to solve problems.	**Justify** the use of geometric properties and theorems used to solve problems.

D PERFORMANCE INDICATOR
Apply coordinate geometry to solve problems. (HS.G-GPE.A.1,2; B.6)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify elements needed to solve problems.	**Identify** concepts and equations in coordinate geometry and initial steps needed to solve problems.	**Apply** coordinate geometry to solve problems.	**Justify** solutions to problems.

SCORING CRITERIA
MATH | GEOMETRY AND MEASUREMENT | 9-12 *(CONTINUED)*

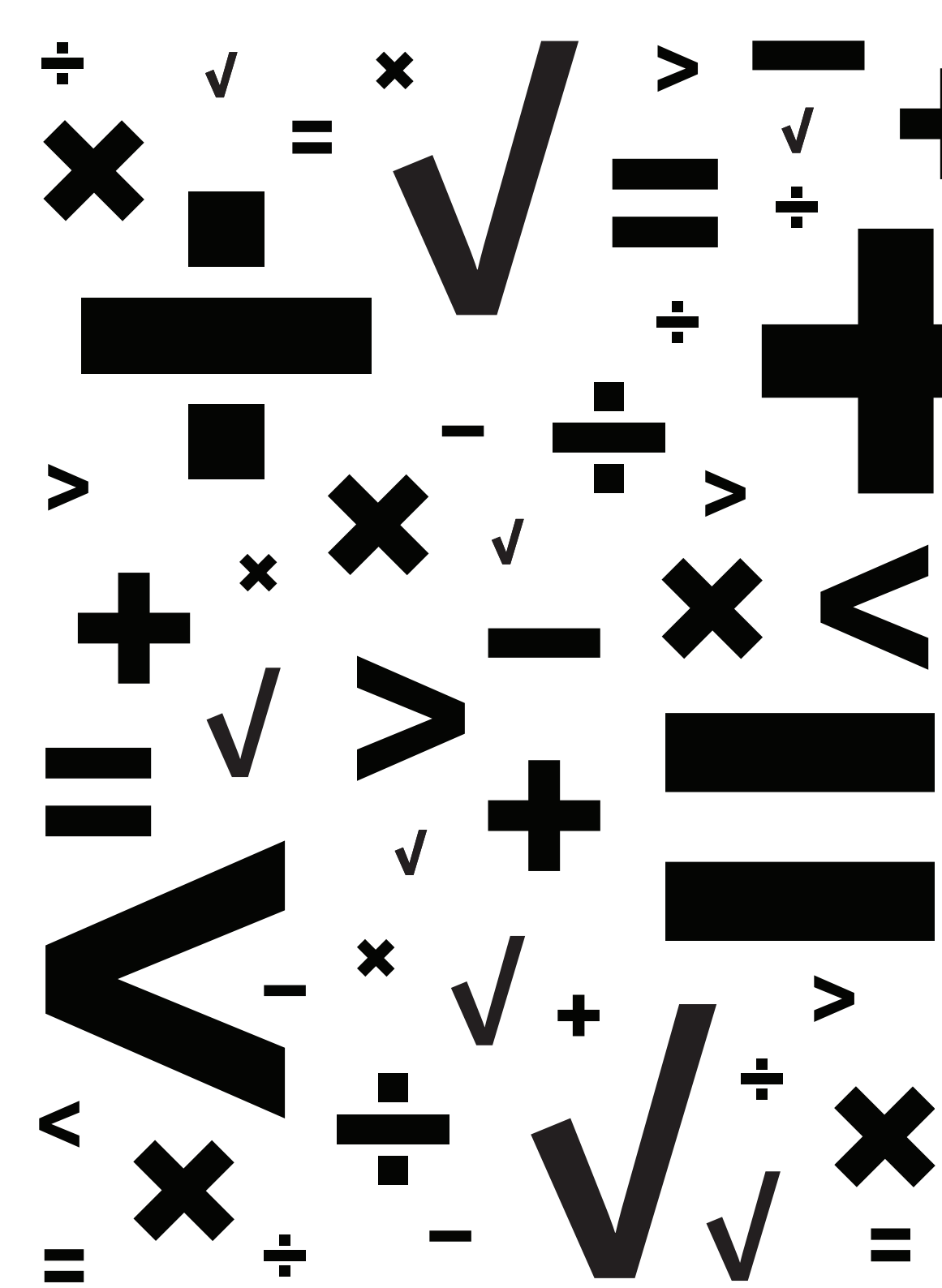


E PERFORMANCE INDICATOR
Solve problems involving two- and three-dimensional objects. (HS.G-GMD.A, B)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify information and/or formulas needed to solve problems involving two- and three-dimensional objects.	**Identify** appropriate information and/or formulas and initial steps needed to solve problems involving two- and three-dimensional objects.	**Solve** problems involving two- and three-dimensional objects.	**Justify** solutions to problems involving two- and three-dimensional objects.

F PERFORMANCE INDICATOR
Apply trigonometric ratios to solve problems involving right triangles. (HS.G-SRT.C)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify elements needed to solve problems involving right triangles.	**Identify** appropriate theorems and/or trigonometric ratios that can be used to solve problems involving right triangles.	**Apply** trigonometric ratios to solve problems involving right triangles.	**Justify** solutions to problems involving right triangles.



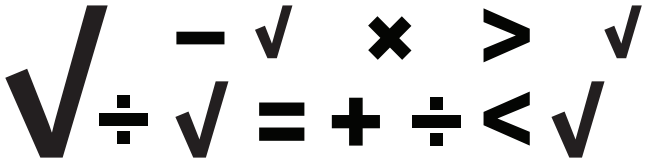
SCORING CRITERIA

MATH

DATA, STATISTICS, AND PROBABILITY

RIDE Rhode Island Department of Education

SCORING CRITERIA
MATH | DATA, STATISTICS, AND PROBABILITY | K-2



Students will...
apply principles of statistics and probability to analyze and interpret data, reach and justify conclusions and make inferences and predictions.

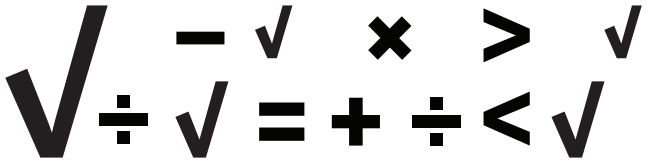
A PERFORMANCE INDICATOR
Classify, organize and represent data. (K.MD.3; 1.MD.4; 2.MD.9, 10)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Classify data.	**Classify** and **organize** data.	**Classify, organize** and **represent** data.	**Evaluate** accuracy or effectiveness of the data representation.

B PERFORMANCE INDICATOR
Interpret and use information from data sets to solve problems. (1.MD.4; 2.MD.10)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Ask questions about a data set. OR **Make** observations about a data set.	**Ask** and **answer** questions about a data set to solve problems.	**Interpret** and **use** information from data sets to solve problems.	**Evaluate** the effectiveness of the interpretation of a data set used to solve a problem.

SCORING CRITERIA
MATH | DATA, STATISTICS, AND PROBABILITY | 3-5



Students will...
apply principles of statistics and probability to analyze and interpret data, reach and justify conclusions and make inferences and predictions.

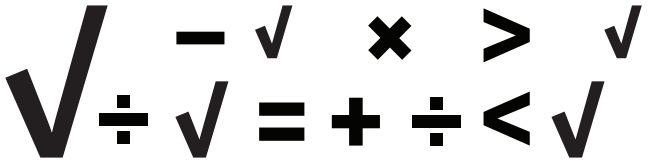
A PERFORMANCE INDICATOR
Classify, organize and represent data. (3.MD.3, 4; 4.MD.4; 5.MD.2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Classify data.	**Classify** and **organize** data.	**Classify, organize** and **represent** data.	**Evaluate** accuracy or effectiveness of the data representation.

B PERFORMANCE INDICATOR
Interpret and use information from data sets to solve problems. (3.MD.3; 4.MD.4; 5.MD.2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Ask questions about a data set. OR **Make** observations about a data set.	**Ask** and **answer** questions about a data set to solve problems.	**Interpret** and **use** information from data sets to solve problems.	**Evaluate** the effectiveness of the interpretation of a data set used to solve a problem.

SCORING CRITERIA
MATH | DATA, STATISTICS, AND PROBABILITY | 6-8



Students will...
apply principles of statistics and probability to analyze and interpret data, reach and justify conclusions and make inferences and predictions.

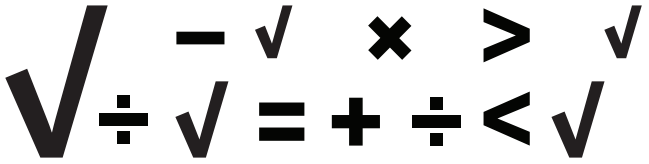
A PERFORMANCE INDICATOR
Organize and represent bivariate data. (6.SP.4; 8.SP.1, 2, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Organize and **represent** numerical data.	**Organize** bivariate data.	**Organize** and **represent** bivariate data.	**Evaluate** accuracy or effectiveness of the data representation.

B PERFORMANCE INDICATOR
Summarize, describe and make inferences about distributions of data. (6SP.2, 3, 5; 7.SP.3, 4; 8.SP.1, 3, 4)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Make observations about distributions of data.	**Summarize** and **describe** distributions of data.	**Summarize, describe** and **make** inferences about distributions of data.	**Use** inferences to **make** predictions or **apply** insights to similar situations.

SCORING CRITERIA
MATH | DATA, STATISTICS, AND PROBABILITY | 6-8 *(CONTINUED)*



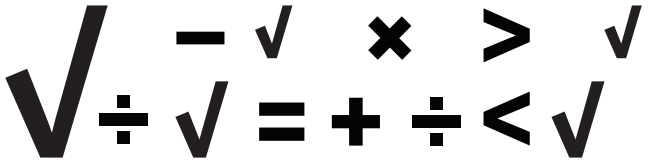
C PERFORMANCE INDICATOR
Use random sampling to draw inferences about a population. (7.SP.1, 2)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Determine whether a random sample is representative of a population.	**Make** observations about a population based on data from random sampling.	**Use** random sampling to **draw** inferences about a population.	**Use** inferences to **make** predictions or **apply** insights to similar situations.

D PERFORMANCE INDICATOR
Develop, use, and evaluate probability models. (7.SP.C)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Develop probability models.	**Develop** and **use** probability models.	**Develop, use,** and **evaluate** probability models.	**Identify** ways in which probability models can be strengthened based on evaluation of the models.

SCORING CRITERIA
MATH | DATA, STATISTICS, AND PROBABILITY | 9-12



Students will...
apply principles of statistics and probability to analyze and interpret data, reach and justify conclusions and make inferences and predictions.

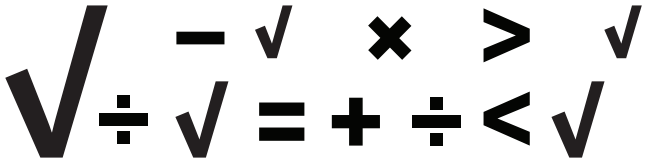
A PERFORMANCE INDICATOR
Summarize, represent, and interpret data. (HS.S-ID.A, B, C)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Make observations about distributions of data.	**Summarize** and **describe** distributions of data.	**Summarize, represent,** and **interpret** data.	**Evaluate** the effectiveness of the interpretation of data.

B PERFORMANCE INDICATOR
Use data to make inferences and justify conclusions from sample surveys, experiments, and observational studies. (HS.S-IC.A, B)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify general trends or patterns in data from sample surveys, experiments, and observational studies.	**Use** data to **make** inferences from sample surveys, experiments, and observational studies.	**Use** data to **make** inferences and **justify** conclusions from sample surveys, experiments, and observational studies.	**Propose** and **justify** alternate conclusions based on data from sample surveys, experiments, and observational studies.

SCORING CRITERIA
MATH | DATA, STATISTICS, AND PROBABILITY | 9-12 *(CONTINUED)*



C PERFORMANCE INDICATOR
Use the concept of dependence and rules of probability to compute probabilities. (HS.S-CP.A; HS.S-CP.B.6,7)

SCORING CRITERIA	BEGINNING	DEVELOPING	PROFICIENT	EXPANDING
	Identify elements of probability situations to determine whether events are dependent.	**Interpret** situations to **select** appropriate probability models.	**Use** the concept of dependence and rules of probability to compute probabilities. .	**Apply** the rules of probability to compute probabilities and **make** decisions or predictions based on the computation taking into account the level of confidence in the model applied.