

Rubric based on the v8.3 Year 7 Mathematics Achievement Standard

Achievement Standard	Levels	A Excellent 1 Advanced	B Good 2 Proficient	C Satisfactory 3 Functional	D Partial 4 Developing	E Minimal 5
	Criteria (Assessable Elements)					
Knowledge and Understanding (Extent of knowledge and depth of understanding as demonstrated through the Proficiencies)	Solve problems involving the comparison, addition and subtraction of integers	Solve problems involving the comparison, addition and subtraction of integers using a diverse range of highly efficient and highly flexible strategies	Solve problems involving the comparison, addition and subtraction of integers using a wide range of mostly efficient strategies	Solve problems involving the comparison, addition and subtraction of integers using an adequate range of reasonably efficient strategies	Solve problems involving the comparison, addition and subtraction of integers using a narrow range of basic strategies	Solve problems involving the comparison, addition and subtraction of integers using simple strategies
	Make the connections between whole numbers and index notation and the relationship between perfect squares and square roots	In-depth understanding and sophisticated application of: <ul style="list-style-type: none"> the connections between whole numbers and index notation the relationship between perfect squares and square roots 	Deep understanding and proficient application of: <ul style="list-style-type: none"> the connections between whole numbers and index notation the relationship between perfect squares and square roots 	Moderate understanding and adequate application of: <ul style="list-style-type: none"> the connections between whole numbers and index notation the relationship between perfect squares and square roots 	Partial understanding and basic application of: <ul style="list-style-type: none"> the connections between whole numbers and index notation the relationship between perfect squares and square roots 	Limited understanding and application of: <ul style="list-style-type: none"> the connections between whole numbers and index notation the relationship between perfect squares and square roots
	Solve problems involving percentages and all four operations with fractions and decimals	Solve problems involving percentages and all four operations with fractions and decimals using a diverse range of highly efficient and highly flexible strategies	Solve problems involving percentages and all four operations with fractions and decimals using a wide range of mostly efficient strategies	Solve problems involving percentages and all four operations with fractions and decimals using an adequate range of reasonably efficient strategies	Solve problems involving percentages and all four operations with fractions and decimals using a narrow range of basic strategies	Solve problems involving percentages and all four operations with fractions and decimals using simple strategies
	Compare the cost of items to make financial decisions	Compare the cost of items to make highly effective and highly efficient financial decisions	Compare the cost of items to make mostly effective and mostly efficient financial decisions	Compare the cost of items to make generally effective and reasonably efficient financial decisions	Compare the cost of items to make partially effective and partially efficient financial decisions	Compare the cost of items to make minimal effectiveness and little efficiency

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	Represent numbers using variables	Represent numbers using variables in familiar and unfamiliar contexts with sophisticated understanding	Represent numbers using variables in familiar and some unfamiliar contexts with considerable understanding	Represent numbers using variables in familiar contexts with reasonable understanding	Represent numbers using variables in familiar contexts with guidance	Represent numbers using variables in familiar contexts with direction
	Connect the laws and properties for numbers to algebra	In-depth and comprehensive understanding when making connections of the laws and properties for numbers to algebra	Proficient understanding when making connections of the laws and properties for numbers to algebra	Sound understanding when making connections of the laws and properties for numbers to algebra	Partial understanding when making connections of the laws and properties for numbers to algebra	Little understanding when attempting to connect the laws and properties for numbers to algebra
	Interpret simple linear representations and model authentic information	Highly logical interpretation of simple linear representations and highly effective modelling of authentic information	Mostly logical interpretation of simple linear representations and mostly effective modelling of authentic information	Reasonably logical interpretation of simple linear representations and reasonably effective modelling of authentic information	Partially logical interpretation of simple linear representations and partially effective modelling of authentic information	Interpret simple linear representations and model authentic information with direction
	Describe different views of three-dimensional objects	Lucid and comprehensive description of different views of 3D objects	Clear description of different views of 3D objects	Generally clear description of different views of 3D objects	Partially clear description of different views of 3D objects	Vague description of different views of 3D objects
	Represent transformations in the Cartesian plane	Represent transformations in the Cartesian plane in familiar and unfamiliar contexts with sophisticated understanding	Represent transformations in the Cartesian plane in familiar and some unfamiliar contexts with considerable understanding	Represent transformations in the Cartesian plane in familiar and contexts with reasonable understanding	Represent transformations in the Cartesian plane in familiar contexts with partial understanding	Represent transformations in the Cartesian plane with direction
	Solve simple numerical problems involving angles formed by a transversal crossing two parallel lines	Solve simple numerical problems involving angles formed by a transversal crossing two parallel lines using highly efficient and highly effective strategies	Solve simple numerical problems involving angles formed by a transversal crossing two parallel lines using mostly efficient strategies	Solve simple numerical problems involving angles formed by a transversal crossing two parallel lines using reasonably efficient strategies	Solve simple numerical problems involving angles formed by a transversal crossing two parallel lines using partially efficient strategies	Solve simple numerical problems involving angles formed by a transversal crossing two parallel lines using limited strategies

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	Identify issues involving the collection of continuous data	Identify issues involving the collection of continuous data with extensive and in-depth understanding	Identify issues involving the collection of continuous data with deep understanding	Identify issues involving the collection of continuous data with moderate understanding	Identify issues involving the collection of continuous data with superficial understanding	Identify issues involving the collection of continuous data with limited understanding
	Describe the relationship between the median and mean in data displays	Lucid and comprehensive description of the relationship between the median and mean in data displays	Clear description of the relationship between the median and mean in data displays	Generally clear description of the relationship between the median and mean in data displays	Partially clear description of the relationship between the median and mean in data displays	Vague description of the relationship between the median and mean in data displays
Mathematical Skills (Sophistication of skills as demonstrated through the Proficiencies) Note: Degrees of accuracy (high, mostly, moderate, partial, limited) are assumed in the A-E range for all skills	Use fractions, decimals and percentages, and their equivalences	Use fractions, decimals and percentages, and their equivalences in a highly skilful and discerning manner	Use fractions, decimals and percentages, and their equivalences in a mostly skilful manner	Use fractions, decimals and percentages, and their equivalences in a generally skilful manner	Use fractions, decimals and percentages, and their equivalences in a partially skilful manner	Use fractions, decimals and percentages, and their equivalences in a limited manner
	Express one quantity as a fraction or percentage of another	Express one quantity as a fraction or percentage of another in a sophisticated and discerning manner	Express one quantity as a fraction or percentage of another in a proficient manner	Express one quantity as a fraction or percentage of another in an adequate manner	Express one quantity as a fraction or percentage of another in a basic manner	Express one quantity as a fraction or percentage of another in a limited manner
	Solve simple linear equations and evaluate algebraic expressions after numerical substitution	Solve simple linear equations and evaluate algebraic expressions after numerical substitution in a highly effective and consistent manner	Solve simple linear equations and evaluate algebraic expressions after numerical substitution in a mostly effective manner	Solve simple linear equations and evaluate algebraic expressions after numerical substitution in a generally effective manner	Solve simple linear equations and evaluate algebraic expressions after numerical substitution in a partially effective manner	Solve simple linear equations and evaluate algebraic expressions after numerical substitution with direction
	Assign ordered pairs to given points on the Cartesian plane	Assign ordered pairs to given points on the Cartesian plane in a highly skilful manner	Assign ordered pairs to given points on the Cartesian plane in a mostly skilful manner	Assign ordered pairs to given points on the Cartesian plane in a generally skilful manner	Assign ordered pairs to given points on the Cartesian plane in a basic manner	Assign ordered pairs to given points on the Cartesian plane in a limited manner
	Use formulas for the area and perimeter of rectangles and calculate volumes of rectangular prisms.	Use formulas for the area and perimeter of rectangles and calculate volumes of rectangular prisms in a highly skilful and discerning manner	Use formulas for the area and perimeter of rectangles and calculate volumes of rectangular prisms in a mostly skilful manner	Use formulas for the area and perimeter of rectangles and calculate volumes of rectangular prisms in a generally skilful manner	Use formulas for the area and perimeter of rectangles and calculate volumes of rectangular prisms in a partially skilful manner	Use formulas for the area and perimeter of rectangles and calculate volumes of rectangular prisms in a limited manner

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	Classify triangles and quadrilaterals	Classify triangles and quadrilaterals using highly logical and comprehensive reasoning	Classify triangles and quadrilaterals using mostly logical and well-justified reasoning	Classify triangles and quadrilaterals using fairly logical and credible reasoning	Classify triangles and quadrilaterals using some logic and some reasoning	Begins to classify triangles and quadrilaterals with limited reasoning
	Name the types of angles formed by a transversal crossing parallel line	Name the types of angles formed by a transversal crossing parallel line in a highly competent manner	Name the types of angles formed by a transversal crossing parallel line in a mostly competent manner	Name the types of angles formed by a transversal crossing parallel line in a reasonably competent manner	Name the types of angles formed by a transversal crossing parallel line with some competence	Name the types of angles formed by a transversal crossing parallel line with minimal competence
	Determine the sample space for simple experiments with equally likely outcomes and assign probabilities to those outcomes	Determine the sample space for simple experiments with equally likely outcomes and assign probabilities to those outcomes in a highly effective manner	Determine the sample space for simple experiments with equally likely outcomes and assign probabilities to those outcomes in a mostly effective manner	Determine the sample space for simple experiments with equally likely outcomes and assign probabilities to those outcomes in a reasonably effective manner	Determine the sample space for simple experiments with equally likely outcomes and assign probabilities to those outcomes in a basic manner	Determine the sample space for simple experiments with equally likely outcomes and assign probabilities to those outcomes in a limited manner
	Calculate mean, mode, median and range for data sets	Calculate mean, mode, median and range for data sets in a highly competent manner with comprehensive reasoning	Calculate mean, mode, median and range for data sets in a mostly competent manner with substantial reasoning	Calculate mean, mode, median and range for data sets in a generally competent manner with adequate reasoning	Calculate mean, mode, median and range for data sets in a partially competent manner with obvious reasoning	Calculate mean, mode, median and range for data sets in a limited manner with direction
	Construct stem-and-leaf plots and dot-plots	Construct stem-and-leaf plots and dot-plots in a highly successful manner	Construct stem-and-leaf plots and dot-plots in a mostly successful manner	Construct stem-and-leaf plots and dot-plots in a generally successful manner	Construct stem-and-leaf plots and dot-plots in a partially successful manner	Construct stem-and-leaf plots and dot-plots with limited success