

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Content (The Number System)

The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.

Exceeds Expectations Level 4 – A student who performs at Level 4 exceeds expectations for the assessed standards.	Meets Expectations Level 3 – A student who performs at Level 3 meets expectations for the assessed standards.	Partially Meets Expectations Level 2 – A student who performs at Level 2 partially meets expectations for the assessed standards.	Does Not Yet Meet Expectations Level 1 – A student who performs at Level 1 does not yet meet expectations for the assessed standards.
Know that there are numbers that are not rational, and approximate them by rational numbers: 8.NS.A.1, 8.NS.A.2			
Accurately and consistently distinguishes between rational and irrational numbers, understands that these numbers have decimal expansions and approximates their locations on a number line, and converts between terminating decimals or decimals that repeat eventually and fractional representations of rational numbers.	Correctly distinguishes between rational and irrational numbers, understands that these numbers have decimal expansions and approximates their locations on a number line, and converts between terminating decimals or repeating decimals of the form (0.aaa...) and fractional representations of rational numbers.	Partially distinguishes between rational and irrational numbers and understands that these numbers have decimal expansions and approximates their locations on a number line.	Attempts to distinguish between rational and irrational numbers and approximates their locations on a number line.

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Content (Expressions & Equations) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Expressions and Equations: 8.EE.A.1, 8.EE.A.2, 8.EE.A.3, 8.EE.A.4			
Evaluates and generates equivalent numerical expressions using and applying properties of integer exponents with consistent accuracy.	Evaluates and generates equivalent numerical expressions using and applying properties of integer exponents, with accuracy.	Evaluates numerical expressions using properties of integer exponents, with partial accuracy.	Evaluates numerical expressions using properties of integer exponents, with limited accuracy.
With consistent accuracy, solves equations of the form $x^2 = p$ and $x^3 = p$, representing solutions using $\sqrt{}$ or $\sqrt[3]{}$ symbols.	Solves equations of the form $x^2 = p$, where p is a perfect square, and solves equations of the form $x^3 = p$, where p is a perfect cube.	Partially solves equations of the form $x^2 = p$, where p is a positive rational number and a perfect square less than or equal to 100, by representing only the positive solution of the equation.	Attempts to solve equations of the form $x^2 = p$, where p is a positive rational number and a perfect square less than or equal to 100, by representing only the positive solution of the equation.
Using scientific notation, estimates very large and very small quantities and determines how many times as large one number is in relation to another, with accuracy and consistency.	Using scientific notation, estimates very large and very small quantities, with accuracy.	Using scientific notation, estimates very large quantities, with partial accuracy.	Using scientific notation, estimates very large quantities, with limited accuracy.
With consistent accuracy, performs operations with numbers expressed in scientific notation. Interprets scientific notation that has been generated by technology.	Correctly performs operations with numbers expressed in scientific notation.	Partially performs operations with numbers expressed in scientific notation.	Attempts to perform operations with numbers expressed in scientific notation.
Chooses appropriate units for measuring very large or very small quantities.			
Interprets scientific notation in context.			

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Content (Expressions & Equations) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Understand the connections between proportional relationships, lines, and linear equations: 8.EE.B.5, 8.EE.B.6			
Graphs linear relationships in the form $y = mx + b$, including proportional relationships, with consistent accuracy.	Correctly graphs linear relationships, in the form $y = mx + b$, including proportional relationships.	Partially graphs linear relationships, in the form $y = mx + b$, including proportional relationships.	Attempts to graph linear relationships, in the form $y = mx + b$.
Interprets the unit rate as the slope of the graph of a proportional relationship and applies these concepts to solve real-world problems, with consistent accuracy.	Interprets the unit rate as the slope of the graph of a proportional relationship and applies these concepts to solve real-world problems with accuracy.	Interprets the unit rate as the slope of the graph of a proportional relationship, with partial accuracy.	Interprets the unit rate as the slope of the graph of a proportional relationship, with minimal accuracy.
Accurately and consistently compares two different proportional relationships represented in different ways.	Correctly compares two different proportional relationships represented in different ways.	Makes some comparisons between two different proportional relationships represented in different ways.	Attempts to compare two different proportional relationships represented in different ways.
Uses similar triangles to show that the slope is the same between any two distinct points on a non-vertical line in the coordinate plane.	Understands that the slope is the same between any two distinct points on a non-vertical line in the coordinate plane.	Demonstrates partial understanding that the slope is the same between any two distinct points on a non-vertical line in the coordinate plane.	Attempts to demonstrate understanding that the slope is the same between any two distinct points on a non-vertical line in the coordinate plane.

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Content (Expressions & Equations)

The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.

Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Analyze and solve linear equations and pairs of simultaneous linear equations: 8.EE.C.7.a, 8.EE.C.7.b, 8.EE.C.8.a, 8.EE.C.8.b, 8.EE.C.8.c			
Accurately and consistently solves mathematical and real-world problems involving linear equations in one variable, with rational number coefficients, including those that require use of the distributive property and combining like terms.	Correctly solves linear equations in one variable, with rational number coefficients, including those that require use of the distributive property and combining like terms.	Partially solves linear equations in one variable, with rational number coefficients, including those that require use of the distributive property or combining like terms.	Attempts to solve linear equations in one variable, with rational number coefficients.
Accurately and consistently analyzes and solves mathematical and real-world problems leading to pairs of simultaneous linear equations graphically, algebraically and by inspection.	Correctly analyzes and solves mathematical problems leading to pairs of simultaneous linear equations graphically and algebraically.	Partially solves mathematical problems leading to pairs of simultaneous linear equations graphically and by inspection.	Attempts to solve mathematical problems leading to pairs of simultaneous linear equations graphically, where the graph is provided.
Understands and explains the relationship between the graphic representation and the algebraic solution to the system.	Understands the relationship between the graphic representation and the algebraic solution to the system.	Demonstrates partial understanding of the relationship between the graphic representation and the algebraic solution to the system.	Attempts to demonstrate understanding of the relationship between the graphic representation and the algebraic solution to the system.
Verifies a solution utilizing multiple methods (e.g., substitution, graphing, etc.) to prove accuracy.	Verifies a solution.	Partially understands how to verify a solution.	Attempts to verify a solution.

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Content (Functions)

The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.

Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Define, evaluate, and compare functions: 8.F.A.1, 8.F.A.2, 8.F.A.3			
Has advanced understanding that a function is a rule assigning to each input exactly one output, which can be graphed as a set of ordered pairs.	Understands that a function is a rule that assigns to each input exactly one output and can be graphed as a set of ordered pairs, with accuracy.	Partially understands that a function is a rule that assigns to each input exactly one output and can be graphed as a set of ordered pairs.	Minimally understands that a function is a rule that assigns to each input exactly one output.
Accurately and consistently compares properties of two functions represented in different ways.	Compares some of the properties of two functions represented in different ways.	Partially compares some of the properties of two functions represented in different ways.	Attempts to compare some of the properties of two functions represented in different ways.
Interprets and demonstrates understanding of $y = mx + b$ as defining a linear function.	Demonstrates understanding of $y = mx + b$ as defining a linear function.	Demonstrates partial understanding of $y = mx + b$ as defining a linear function.	Demonstrates minimal understanding of $y = mx + b$ as defining a linear function.
Identifies, proves, and demonstrates understanding of functions that are non-linear.	Identifies functions that are non-linear.		
Modeling with Functions: 8.F.B.4, 8.F.B.5			
Consistently and accurately constructs linear functions to model relationships between two quantities, whether or not a context is provided, and demonstrates flexibility in representing and interpreting the relationship.	Constructs a function to model a linear relationship between two quantities described with or without a context, with accuracy.	Constructs a function to model a linear relationship between two quantities in a table or a graph.	Identifies a function to model a linear relationship between two quantities in a table or a graph.
Given a description of a relationship or two (x, y) values in a table of values or a graph, accurately and consistently determines the rate of change and initial value of the function.	Given two (x, y) values in a table of values or a graph, correctly determines the rate of change and initial value of the function.	Partially determines the rate of change and initial value of the function from a table or graph that contains the initial value.	Attempts to determine the rate of change or initial value of the function from a table or graph that contains the initial value.
Accurately and consistently analyzes and describes the functional relationship between two quantities.	Correctly analyzes the graph of a linear function to describe the functional relationship between two quantities.	Partially describes the functional relationship between two quantities based on the graph.	Attempts to describe the functional relationship between two quantities based on the graph.
Accurately and consistently sketches a graph of a function when given a written description.	Correctly sketches the graph of a function when given a written description.	Sketches the graph of a function when given a written description, with partial accuracy.	Sketches the graph of a function when given a written description, with limited accuracy.

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Content (Geometry) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Understand congruence and similarity using physical models, transparencies, or geometry software: 8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c, 8.G.A.2, 8.G.A.3, 8.G.A.4			
Describes, at an advanced level, the effect of dilations, translations, rotations, and reflections on two-dimensional figures with and without coordinates, determines whether two given figures are congruent or similar through one or more transformations and describes the sequence of transformations to justify congruence or similarity of two figures.	Correctly describes the effect of dilations, translations, rotations, and reflections on two-dimensional figures with coordinates, and determines whether two given figures are congruent or similar through one or more transformations.	Partially describes the effect of translations, rotations and reflections on two-dimensional figures without coordinates and determines whether two given figures are congruent.	Attempts to describe the effect of translations, rotations or reflections on two-dimensional figures without coordinates and determines whether two given figures are congruent.
Understand and apply the Pythagorean Theorem: 8.G.B.7, 8.G.B.8			
Applies the Pythagorean Theorem in real world and mathematical problems in two and three dimensions and to find the distance between two points in a coordinate system, with consistent accuracy.	Applies the Pythagorean Theorem in a simple planar case and to find the distance between two points in a coordinate system accurately.	Applies the Pythagorean Theorem in solving for any side of the right triangle in a simple planar case without coordinates, with partial accuracy.	Applies the Pythagorean Theorem in solving for the hypotenuse of a right triangle in a simple planar case without coordinates, with limited accuracy.
Recognizes situations to apply the Pythagorean Theorem in multi-step problems, including finding the distance between two points in a two- or three-dimensional coordinate system.			
Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres: 8.G.C.9			
Identifies and understands the formulas for the volume of cones, cylinders, and spheres, and uses them to find the volume or dimensions of solids in mathematical and real-world problems with consistent accuracy.	Identifies the formulas for the volume of cones, cylinders, and spheres, and uses them to find the volume of solids in mathematical and real-world problems with accuracy.	Identifies the formulas for the volume of cones, cylinders, and spheres, and uses them to find the volume of solids in mathematical problems with partial accuracy.	Identifies the formulas for the volume of cones, cylinders and spheres.
Applies these formulas to multiple composite mathematical solids.			

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Content (Statistics & Probability) The student solves problems for the grade/course with connections to the Standards for Mathematical Practice.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Investigate patterns of association in bivariate data: 8.SP.A.1, 8.SP.A.2, 8.SP.A.3, 8.SP.A.4			
Consistently and accurately analyzes and describes the patterns of association that can be seen in bivariate data by constructing, displaying, and interpreting scatter plots and two-way tables.	Correctly analyzes and describes the patterns of association that can be seen in bivariate data by constructing, displaying, and interpreting scatter plots and two-way tables.	Partially describes the patterns of association that can be seen in bivariate data by interpreting scatter plots and two-way tables.	Minimally describes the patterns of association that can be seen in bivariate data by interpreting scatter plots and two-way tables.
Uses the equation of a linear model to solve problems in context, with consistent accuracy.	Uses the equation of a linear model to solve problems in context, with accuracy.	Uses a given equation of a linear model to solve problems in context, with partial accuracy.	Attempts to use a given equation of a linear model to solve problems in context, with minimal accuracy.
Accurately fits a line of best fit to a scatter plot showing a linear relationship and critically evaluates how well the model represents the data, including the strength of the association and overall fit.	Can informally draw a line of best fit on a scatter plot that shows a linear relationship, using it to reasonably represent the overall trend in the data.	Identifies a line of best fit for a scatter plot that suggests a linear association with partial accuracy.	Identifies a line of best fit for a scatter plot that suggests a linear association, with minimal accuracy.
Compares linear models used to fit the same set of data to determine which is a better fit.			

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Reasoning (may cross multiple reporting categories) In connection with content, the student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Graphs and Equations: 8.EE.B.6, 8.EE.C.7.a, 8.EE.C.7.b, 8.EE.C.8.a, 8.EE.C.8.b			
In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a complete response based on the principle that a graph of an equation in two variables is the set of all its solutions and a given equation or system of equations, including: - a logical approach based on a conjecture and/or stated assumptions - a logical and complete progression of steps - precision of calculation - correct use of grade-level vocabulary, symbols and labels - logical justification of a conclusion - evaluating, interpreting, and critiquing the validity and efficiency of others' responses, approaches, conclusions and reasoning, correcting and providing a counter-example where applicable - generalization of an argument or conclusion.	In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a complete response based on the principle that a graph of an equation in two variables is the set of all its solutions and a given equation or system of equations, including: - a logical approach based on a conjecture and/or stated assumptions - a logical progression of steps - precision of calculation - correct use of grade-level vocabulary, symbols and labels - complete justification of a conclusion - evaluating, interpreting and critiquing the validity of others' responses, approaches, conclusions and reasoning.	In connection with the content knowledge, skills, and abilities, the student constructs and communicates a complete response based on the principle that a graph of an equation in two variables is the set of all its solutions and a given equation or system of equations, including: - a logical approach based on a conjecture and/or stated assumptions - a logical, but incomplete, progression of steps - minor calculation errors - some use of grade-level vocabulary, symbols and labels - partial justification of a conclusion - evaluating the validity of others' approaches and conclusions.	In connection with the content knowledge, skills, and abilities, the student constructs and communicates an incomplete response based on the principle that a graph of an equation in two variables is the set of all its solutions and a given equation or system of equations, including: - a faulty approach based on a conjecture and/or stated assumptions - an illogical or incomplete progression of steps - major calculation errors - limited use of grade-level vocabulary, symbols and labels - limited justification of a conclusion.

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Reasoning (may cross multiple reporting categories) In connection with content, the student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Reasoning: 8.EE.C.8.c, 8.F.A.3, 8.G.A.2, 8.G.A.4, 8.G.A.5			
In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a well organized and complete response based on a chain of reasoning to justify or refute algebraic, function, or linear-equation propositions or conjectures, including: - a logical approach based on a conjecture and/or stated assumptions - a logical and complete progression of steps - precision of calculation - correct use of grade-level vocabulary, symbols and labels - logical justification of a conclusion - evaluating, interpreting and critiquing the validity of others' responses, approaches, conclusions and reasoning, correcting and providing a counter-example where applicable - generalization of an argument or conclusion.	In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a well organized and complete response based on a chain of reasoning to justify or refute algebraic, function, or linear-equation propositions or conjectures, including: - a logical approach based on a conjecture and/or stated assumptions - a logical progression of steps - precision of calculation - correct use of grade-level vocabulary, symbols and labels - complete justification of a conclusion - evaluating, interpreting and critiquing the validity of others' responses, approaches, conclusions and reasoning.	In connection with the content knowledge, skills, and abilities, the student constructs and communicates a complete response based on a chain of reasoning to justify or refute algebraic, function, or linear-equation propositions or conjectures, including: - a logical approach based on a conjecture and/or stated assumptions - a logical, but incomplete, progression of steps - minor calculation errors - some use of grade-level vocabulary, symbols and labels - partial justification of a conclusion - evaluating the validity of others' approaches and conclusions.	In connection with the content knowledge, skills, and abilities, the student constructs and communicates an incomplete response based on a chain of reasoning to justify or refute algebraic, function, or linear-equation propositions or conjectures, including: - a faulty approach based on a conjecture and/or stated assumptions - an illogical and incomplete progression of steps - major calculation errors - limited use of grade-level vocabulary, symbols and labels - limited justification of a conclusion.

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Reasoning (may cross multiple reporting categories) In connection with content, the student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Geometric Reasoning: 8.EE.B.6, 8.G.A.2, 8.G.A.4, 8.G.B.6, 8.G.B.7, 8.G.B.8			
In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a complete response based on applying geometric reasoning in a coordinate setting and/or using coordinates to draw geometric conclusions, including: - a logical approach based on a conjecture and/or stated assumptions - a logical and complete progression of steps - precision of calculation - correct use of grade-level vocabulary, symbols and labels - logical justification of a conclusion - evaluating, interpreting and critiquing the validity and efficiency of others' responses, approaches and reasoning, correcting and providing a counter-example where applicable - generalization of an argument or conclusion - identifying and describing errors in solutions and presenting correct solutions - distinguishing correct explanation / reasoning from that which is flawed. If there is a flaw, presents correct reasoning.	In connection with the content knowledge, skills, and abilities, the student clearly constructs and communicates a complete response based on applying geometric reasoning in a coordinate setting and/or using coordinates to draw geometric conclusions, including: - a logical approach based on a conjecture and/or stated assumptions - a logical progression of steps - precision of calculation - correct use of grade-level vocabulary, symbols and labels - complete justification of a conclusion - evaluating, interpreting and critiquing the validity of others' responses, approaches, conclusions and reasoning - identifying and describing errors in solutions and presenting correct solutions.	In connection with the content knowledge, skills, and abilities, the student constructs and communicates a complete response based on applying geometric reasoning in a coordinate setting and/or using coordinates to draw geometric conclusions, including: - a logical approach based on a conjecture and/or stated assumptions - a logical, but incomplete, progression of steps - minor calculation errors - some use of grade-level vocabulary, symbols and labels - partial justification of a conclusion - evaluating the validity of others' approaches and conclusions - identifying and describing errors in solutions.	In connection with the content knowledge, skills, and abilities, the student constructs and communicates an incomplete response based on applying geometric reasoning in a coordinate setting and/or using coordinates to draw geometric conclusions, including: - a faulty approach based on a conjecture and/or stated assumptions - an illogical and incomplete progression of steps - major calculation errors - limited use of grade-level vocabulary, symbols and labels - limited justification of a conclusion.

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Modeling (may cross multiple reporting categories)

In connection with content, the student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course, engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, looking for and making use of structure, and/or looking for and expressing regularity in repeated reasoning.

Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
Modeling: 8.EE.A.1, 8.EE.A.2, 8.EE.A.3, 8.EE.A.4, 8.EE.B.5, 8.EE.B.6, 8.EE.B.7.b, 8.EE.C.8.a, 8.EE.C.8.b, 8.EE.C.8.c, 8.F.A.1, 8.F.A.2, 8.F.A.3, 8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c, 8.G.A.2, 8.G.A.3, 8.G.A.4, 8.G.B.7, 8.G.B.8			
In connection with the content knowledge, skills, and abilities, the student devises a well organized plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by: • using stated assumptions and making assumptions and approximations to simplify a real-world situation • analyzing and/or creating constraints, relationships and goals • analyzing relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • analyzing, justifying and defending models which lead to a conclusion • reflecting on whether the results make sense • improving the model if it has not served its purpose • applying proportional reasoning	In connection with the content knowledge, skills, and abilities, the student devises a well organized plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by: • using stated assumptions and making assumptions and approximations to simplify a real-world situation • mapping relationships between important quantities by selecting appropriate tools to create models • mapping relationships mathematically between important quantities to draw conclusions • reflecting on whether the results make sense • improving the model if it has not served its purpose • applying proportional reasoning	In connection with the content knowledge, skills, and abilities, the student devises a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by: • using stated assumptions and approximations to simplify a real-world situation • illustrating relationships between important quantities by using provided tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • reflecting on whether the results make sense • modifying the model if it has not served its purpose • applying proportional reasoning	In connection with the content knowledge, skills, and abilities, the student devises a plan to apply mathematics in solving problems arising in everyday life, society, and the workplace by: • using stated assumptions and approximations to simplify a real-world situation • identifying important quantities using provided tools to create models • analyzing relationships mathematically to draw conclusions • applying proportional reasoning

GRADE 8 MATHEMATICS

Performance Level Descriptors

Grade 8 Math: Modeling (may cross multiple reporting categories)

In connection with content, the student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course, engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, looking for and making use of structure, and/or looking for and expressing regularity in repeated reasoning.

Exceeds Expectations	Meets Expectations	Partially Meets Expectations	Does Not Yet Meet Expectations
• writing a complete, clear and correct algebraic expression or equation to describe a situation • writing/using functions to describe how one quantity of interest depends on another • using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • analyzing mathematical results in the context of the situation.	• writing a complete, clear and correct algebraic expression or equation to describe a situation • writing/using functions to describe how one quantity of interest depends on another • using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • analyzing mathematical results in the context of the situation.	• writing an incomplete algebraic expression or equation to describe a situation • writing/using functions to describe how one quantity of interest depends on another • using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • interpreting mathematical results in a simplified context.	• writing an incomplete algebraic expression or equation to describe a situation • using functions to describe how one quantity of interest depends on another • using unreasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity.