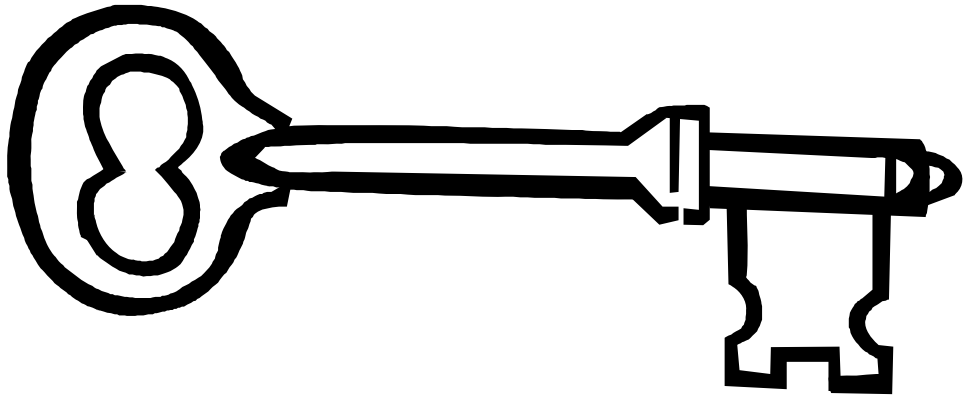
BAKERSFIELD CITY SCHOOL DISTRICT
Education Center – 1300 Baker Street
Bakersfield, California 93305

Curriculum & Standards

California Math Standards
Grade 7



Mathematics - Grade 7
NUMBER SENSE

NS 1.1

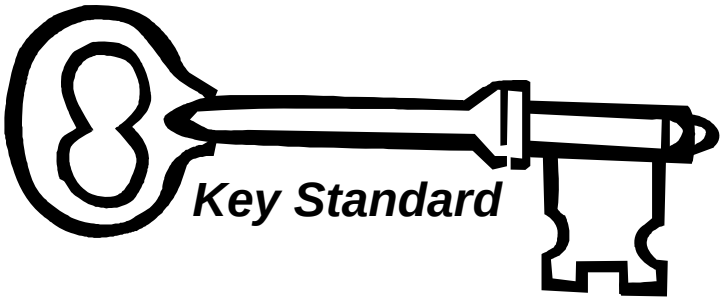
I can read, write, and compare rational numbers in scientific notation.

Chapters: 1, 2 and 4

Mathematics - Grade 7
NUMBER SENSE

NS 1.2

- I can add, subtract, multiply, and divide rational numbers.
- I can take positive rational numbers to whole-number powers.



Chapters: 1, 2 and 4

Mathematics - Grade 7
NUMBER SENSE

NS 1.3

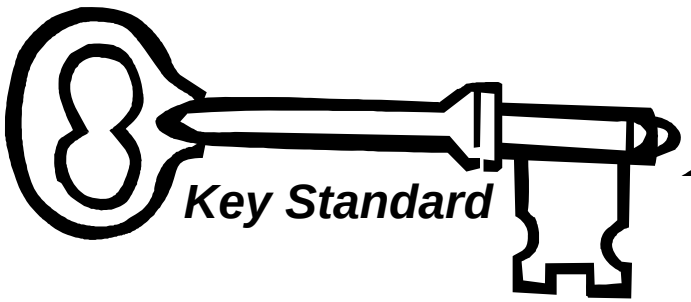
- I can convert fractions to decimals and percents.
- I can use these conversions in estimations, computations, and applications.

Chapters: 2 and 6

Mathematics - Grade 7
NUMBER SENSE

NS 1.4

I can differentiate between rational and irrational numbers.

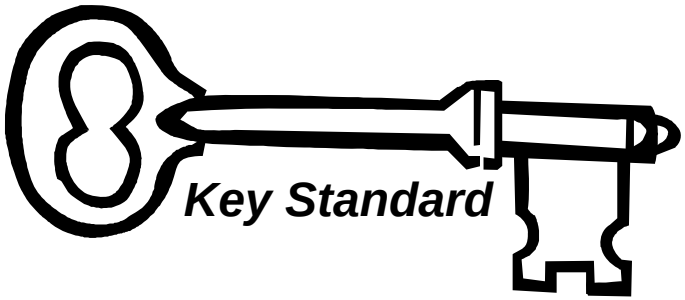


Chapter: 4

Mathematics - Grade 7
NUMBER SENSE

NS 1.5

- I know that every rational number is either a termination or repeating decimal.
- I can convert terminating decimals into reduced fractions.



Chapter: 2

Mathematics - Grade 7
NUMBER SENSE

NS 1.6

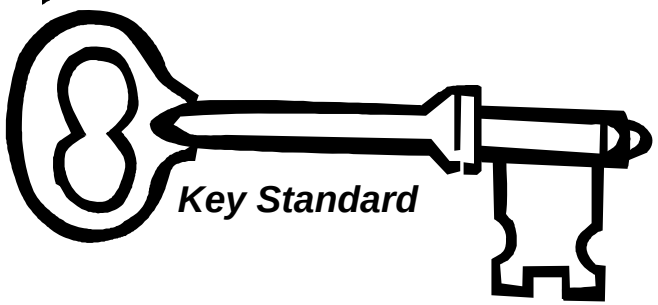
I can calculate the percentage of increases and decreases of a quantity.

Chapter: 6

Mathematics - Grade 7
NUMBER SENSE

NS 1.7

- I can solve problems that involve discounts, markups, commissions, and profit.
- I can compute simple and compound interest.



Chapter: 6

Mathematics - Grade 7
NUMBER SENSE

NS 2.1

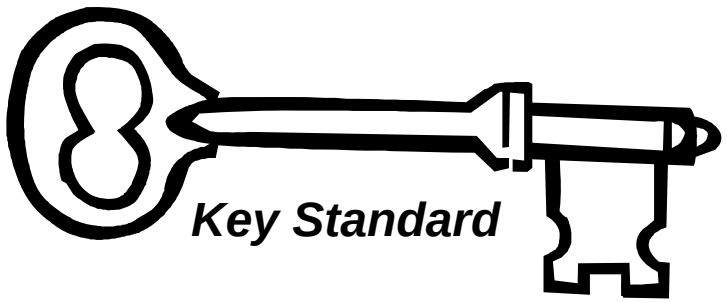
- I understand negative whole number exponents.
- I can multiply and divide expressions involving exponents with a common base.

Chapter: 4

Mathematics - Grade 7
NUMBER SENSE

NS 2.2

I can add and subtract fractions by using factoring to find common denominators.

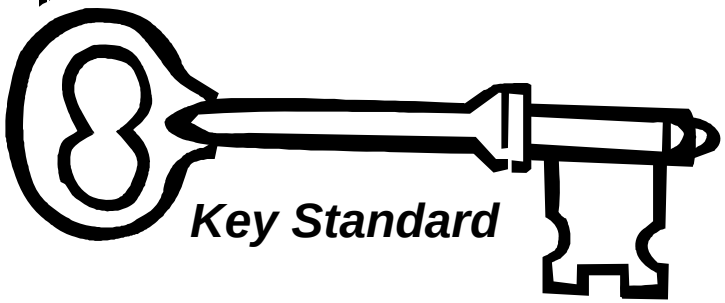


Chapter: 2

Mathematics - Grade 7
NUMBER SENSE

NS 2.3

I can multiply, divide, and simplify rational numbers by using exponent rules.



Chapter: 4

Mathematics - Grade 7
NUMBER SENSE

NS 2.4

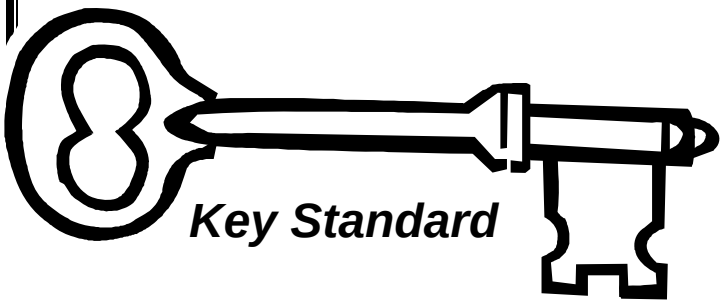
- I know the inverse relationship between raising to a power and extracting the root of a perfect square integer.
- For integers that are not perfect squares, I can determine without a calculator the two integers between which its square root lies and explain why.

Chapter: 4

Mathematics - Grade 7
NUMBER SENSE

NS 2.5

- I understand the meaning of the absolute value of a number.
- I know that the absolute value of a number is the number's distance from zero on a number line.
- I can find the absolute value of real numbers.



Chapter: 1

Mathematics - Grade 7
Algebra and Functions

AF 1.1

I can use variables and appropriate operations to write an expression, an equation, an inequality, or a system of equations or inequalities that represents a verbal description.

Chapters: 1 and 3

Mathematics - Grade 7
Algebra and Functions

AF 1.2

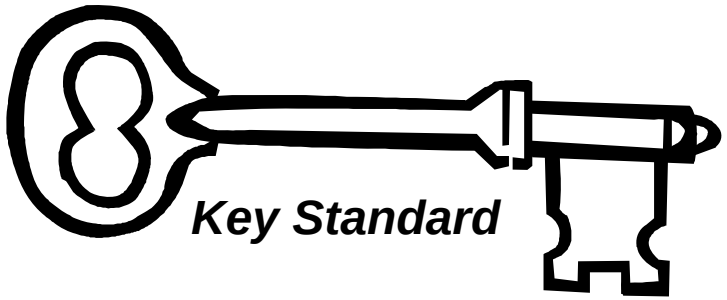
I can use the correct order of operations to evaluate algebraic expressions.

Chapters: 1 and 4

Mathematics - Grade 7
Algebra and Functions

AF 1.3

- I can simplify numerical expressions by applying the properties of rational numbers. (identity, inverse, distributive, associative, commutative)
- I can justify the process I used to simplify the expressions.



Chapters: 1, 2 and 3

Mathematics - Grade 7
Algebra and Functions

AF 1.4

I can use algebraic terminology correctly. (variable, equation, term, coefficient, inequality, expression, constant)

Chapters: 1 and 3

Mathematics - Grade 7
Algebra and Functions

AF 1.5

I can represent quantitative relationships graphically and I can interpret the meaning of a specific part of the graph.

Chapter: 7

Mathematics - Grade 7
Algebra and Functions

AF 2.1

- I know that positive whole number powers are used to show repeated multiplication.
- I know that negative whole number powers are used to show repeated division.
- I know that negative whole number powers can be interpreted as multiplication by the multiplicative inverse.
- I can simplify and evaluate expressions that include exponents.

Chapter: 4

Mathematics - Grade 7
Algebra and Functions

AF 2.2

- I can multiply and divide monomials.
- I can take powers and extract roots to monomials.

Chapter: 4

Mathematics - Grade 7
Algebra and Functions

AF 3.1

I can graph the functions of the form $y = nx^2$ and $y = nx^3$ and use in solving problems.

Chapter; 7

Mathematics - Grade 7
Algebra and Functions

AF 3.2

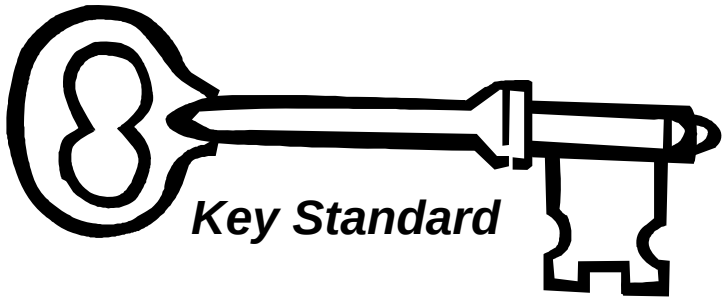
I can plot the values from the volumes of three-dimensional shapes for various values of the edge lengths.

Chapter: 10

Mathematics - Grade 7
Algebra and Functions

AF 3.3

- I know that the ratios of vertical change per unit of horizontal change is also called the "rise over run" or slope of a graph.
- I can graph functions noting that the slope is always the same.

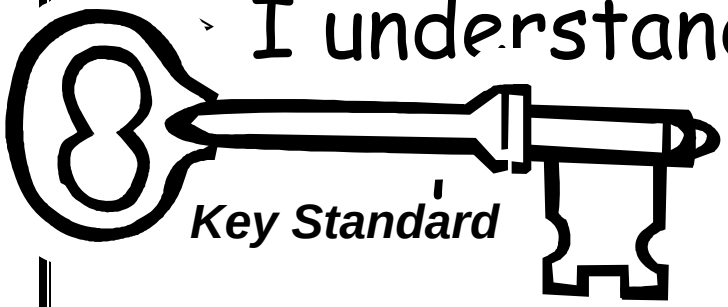


Chapter: 7

Mathematics - Grade 7
Algebra and Functions

AF 3.4

- I can plot values of quantities whose ratios are always the same and I can fit a line to that plot.
- I understand that the slope of the [illegible] quantities.

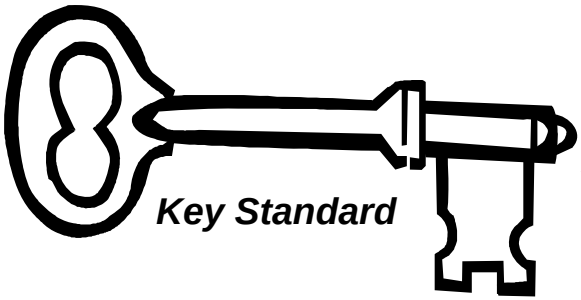


Chapter: 7

Mathematics - Grade 7
Algebra and Functions

AF 4.0

I can solve linear equations and inequalities over the rational numbers.



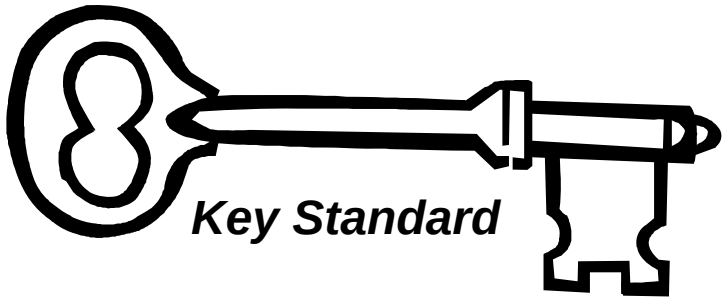
Chapters: 2 and 3

***Overarching standard-descriptive statement that precedes a set of standards.**

Mathematics - Grade 7
Algebra and Functions

AF 4.1

- I can solve two step linear equations and inequalities in one variable.
- I can interpret the solution or solutions in the context from which they arose.
- I can verify the reasonableness of the results.

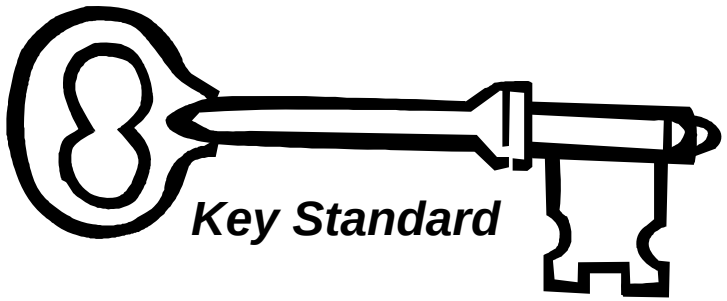


Chapters: 1, 2, and 3

Mathematics - Grade 7
Algebra and Functions

AF 4.2

I can solve multistep problems involving rate, average speed, distance, and time or a direct variation.



Chapters: 3, 5 and 7

Mathematics - Grade 7
Measurement and Geometry

MG 1.1

I can compare weights, capacities, geometric measures, times, and temperatures within and between measurement systems.

Chapter: 5

Mathematics - Grade 7
Measurement and Geometry

MG 1.2

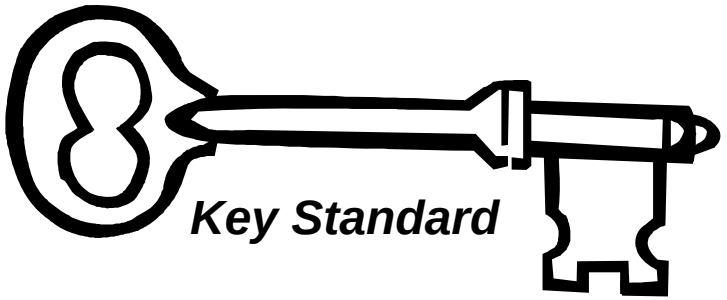
I can construct and read drawings and models made to scale.

Chapter: 5

Mathematics - Grade 7
Measurement and Geometry

MG 1.3

- I can use measures expressed as rates to solve problems.
- I can use measures expressed as products to solve problems.
- I can use dimensional analysis to check the reasonableness of the answer.



Chapters: 1 and 5

Mathematics - Grade 7
Measurement and Geometry

MG 2.1

- I can use formulas for finding the perimeter and area of basic two-dimensional figures such as rectangles, parallelograms, trapezoids, squares, triangles, and circles.
- I can use formulas for finding the surface area and volume of basic three-dimensional figures such as prisms and cylinders.

Chapters: 9 and 10

Mathematics - Grade 7
Measurement and Geometry

MG 2.2

I can estimate and compute the area of complex or irregular two- and three-dimensional figures by breaking down the figures into more basic shapes.

Chapters: 9 and 10

Mathematics - Grade 7
Measurement and Geometry

MG 2.3

- I can find the perimeter, surface area, and volume of a three-dimensional object built from rectangular solids.
- I understand how multiplying an object's dimensions by a scale factor effects the surface area and volume of that object.

Chapter: 10

Mathematics - Grade 7
Measurement and Geometry

MG 2.4

- I can relate changes in measurement with a change of scale to the units used.
- I can relate changes in measurement to conversions between units.

Chapters: 9 and 10

Mathematics - Grade 7
Measurement and Geometry

MG 3.1

- I can identify basic elements of geometric figures. (e.g., altitudes, midpoints, diagonals, angle bisectors, and perpendicular bisectors; central angles, radii, diameters, and chords of circles)
- I can use a compass and a straightedge to construct these elements.

Chapters: 8 and 9

Mathematics - Grade 7
Measurement and Geometry

MG 3.2

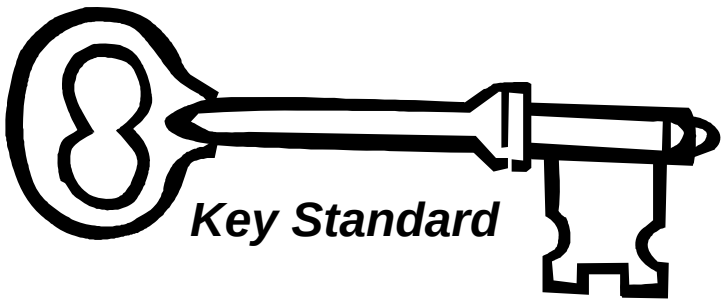
- I can use coordinate graphs to plot simple figures.
- I can find the areas and lengths of these figures.
- I can use these figures in reflections and translations.

Chapters: 8 and 9

Mathematics - Grade 7
Measurement and Geometry

MG 3.3

- I know the Pythagorean theorem and its converse.
- I can use the Pythagorean theorem and its converse to find the lengths of the missing side of a right triangle.
- I can use direct measurement to verify the Pythagorean theorem.

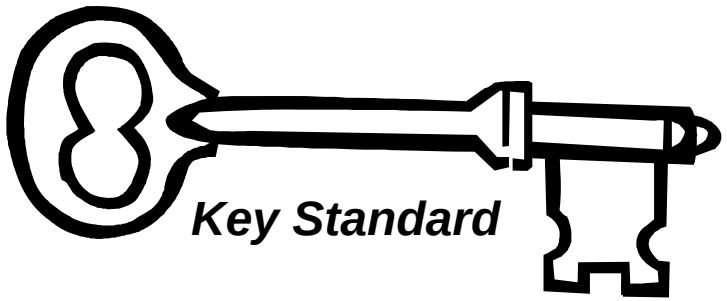


Chapters: 4 and 8

Mathematics - Grade 7
Measurement and Geometry

MG 3.4

- I understand what makes two geometrical figures congruent.
- I understand the relationship between the sides and the angles of congruent figures.



Chapter: 8

Mathematics - Grade 7
Measurement and Geometry

MG 3.5

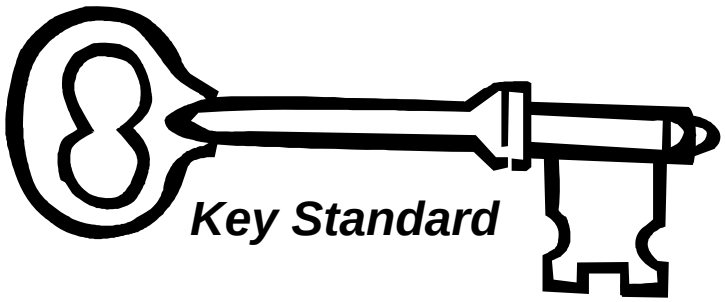
I can construct two-dimensional patters for three-dimensional models (cylinders, prisms, and cones).

Chapter: 10

Mathematics - Grade 7
Measurement and Geometry

MG 3.6

- I can identify elements of three-dimensional geometric objects.
- I can describe how two or more objects are related in space.



Chapter: 8

Mathematics - Grade 7
Statistics, Data Analysis and Probability

SDAP 1.1

I can display and compare data using stem-and-leaf plots or by using box-and-whisker plots.

Chapter: 11

Mathematics - Grade 7
Statistics, Data Analysis and Probability

SDAP 1.2

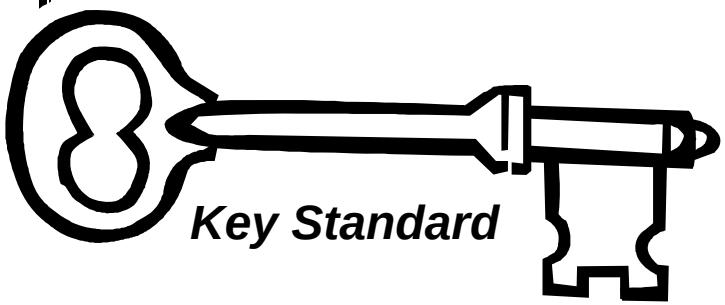
- I can use two numerical values to create a scatterplot.
- I can describe the relationship between two variables on a scatterplot.

Chapter: 11

Mathematics - Grade 7
Statistics, Data Analysis and Probability

SDAP 1.3

I can find the minimum, lower quartile, median, upper quartile and maximum of a data set.



Chapter: 11

Mathematics - Grade 7
Mathematical Reasoning

MR 1.1

- I can analyze problems by:
  - Identifying relationships.
  - Understanding what information is needed and not needed.
  - Identifying missing information.
  - Putting information in the right order.
  - Observing patterns.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 1.2

I can prove mathematical estimations based on a description of the question or problem.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 1.3

I can decide when and how to break a problem into simpler parts.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 2.1

I can use estimation to prove if an answer is reasonable.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 2.2

I can use strategies from simple problems to help solve more difficult problems.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 2.3

- I can use logical reasoning to estimate and solve unknown quantities.
- I can use arithmetic and algebraic techniques to estimate and solve unknown quantities.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 2.4

I can use inductive and deductive reasoning to make and test conjectures.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 2.5

I can use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain how I have solved a problem.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 2.6

- I can clearly explain solutions to problems using the right mathematical symbols and terms.
- I can justify how I have solved the problem by my work and my words.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 2.7

I know when an exact answer is needed and when it is better to estimate.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 2.8

I can calculate the correct answer and check whether my answer is correct, based on the information in the problem.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 3.1

I can evaluate to tell if my answer makes sense based on the information in the problem.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 3.2

I can show that I understand the method for solving a problem by using the same method to solve similar problems.

*Embedded across all strands

Mathematics - Grade 7
Mathematical Reasoning

MR 3.3

I see patterns in how I obtained answers and used strategies so that I can apply what I have learned in other situations.

*Embedded across all strands