

NUMBERS AND OPERATIONS

Recognize, read, write integers.	M
Recognize, read, write rational numbers: ratios and proportions.	m
Recognize, read, write Roman numerals.	D
Recognize, read, write irrational numbers.	M
Identify Real numbers, opposites.	m
Identify members of a "Set."	D
Use signs of equality and inequality =, <, >.	m
Use signs of equality and inequality \leq , \geq , \neq .	M
Recognize, read, and write, in terms of notation: elements.	m
Identify subsets.	D
Identify domain and range.	M
Add using negative numbers.	m
Add, subtract, multiply, divide using mental math.	D
Subtract, multiply, divide using negative numbers.	M
Multiply using distributive property.	m
Identify consecutive odd, even integers.	I
Solve fraction/decimal word problems.	M
Add fraction combinations, decimals, and/or whole numbers.	m
Add, subtract, multiply, divide with negative fractions and decimals.	M
Add, subtract, multiply, divide fractions and decimals using mental math.	D
Understand fraction/decimal division by zero is irrational.	D

ALGEBRA

Recognize, read, write, and calculate numbers using exponential notation.	m
Recognize, read, write, and calculate using negative exponents.	D
Recognize the result of a zero exponent.	m
Multiply exponential expressions.	M
Recognize, read, write, and calculate exponential numbers with negative bases.	m
Calculate Exponents/roots; base conversion.	D
Calculate rational square roots.	M
Estimate irrational square roots.	D
Calculate estimations of irrational square roots with a calculator.	m
Calculate other roots (cubed root, fourth root, etc.); products of Square Root Theorem; signed roots (radical expressions).	M

Recognize, read, and write numbers using scientific notation.	m
Perform operations with numbers in scientific notation.	D
Calculate proportions.	m
Solve problems involving: percent of increase/decrease.	M
Solve problems involving compound interest.	D
Calculate by applying Order of operations, symbols of inclusion [], { }, insertion of symbols.	m
Apply opposite and multiple signs, within and outside symbols of inclusion.	M
Solve word problems with two statements of equality.	D
Solve word problems using the distance formula: Distance= rate x time.	M
Check reasonableness of solution.	D
Understand patterns and relationships by observing, describing, comparing and creating; sorting and classifying by characteristics; predicting what comes next and identifying the missing element; distinguishing between growing and repeating patterns; representing information numerically, graphically, and verbally; discussing/analyzing change.	D
Identify greatest common factor of algebraic expressions and least common multiple of algebraic expressions.	I
Identify like terms, polynomials, unknown quantities, algebraic phrases, and patterns.	D
Evaluate algebraic expressions using order of operations with integers, rational and irrational numbers.	D
Evaluate algebraic expressions using order of operations with positive exponents.	M
Evaluate algebraic expressions using order of operations with zero exponents.	D
Evaluate algebraic expressions using order of operations with negative and variable exponents.	I
Simplify expressions: combine like terms; using distributive property; with exponents.	D
Simplify rational expressions; radical expressions; polynomials.	D
Solve simple equations using a variable as a changing quantity.	D
Solve more complicated equations with fractional parts, mixed numbers, a decimal part, and percentage.	M
Solve more complicated equations using substitution, and with variables in the denominator.	D
Solve more complicated equations with variables on both sides, by factoring, by isolating a variable in terms of other variables.	I
Solve problems using systems of equations involving graphic solutions with and without technology.	D
Read, write and solve algebraic word problems.	D
Solve inequalities using additive property of inequality; multiplicative property of inequality; absolute value of inequality.	M

Use graphing technology.	I
Factor polynomials using greatest common factor.	D
Factor polynomials using grouping, FOIL.	I
Explore linear relationships with and without technology by identifying coordinates.	m
Explore linear relationships with and without technology by identifying and calculating slope; by identifying intercepts.	I
Explore linear relationships by solving and graphing three points.	M
Explore linear equations by solving and graphing using slope intercept.	D
Solve linear equations by graphing point-slope, parallel and perpendicular, horizontal and vertical.	I
Explore linear relationship symbolically by writing equations of lines given two points; the graph; slope and y-intercept; point and slope; x and y intercept.	I
Explore linear relationships symbolically by using distance formula.	D
Discuss/analyze change by measuring and comparing quantities; by using tables and graphs; by using equations with: a constant rate of change and non-linear relationships.	D
Analyze and plan the problem determining the appropriate strategy by: drawing pictures; creating original problems; determining if information is sufficient to solve; relating to an easier problem; using tables graphs and diagrams; trial and error; working backwards; sorting, classifying, and using patterns; estimation; choosing correct operation.	D
Analyze and solve pairs of simultaneous linear equations.*	D
<i>Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.</i>	
<i>Define, evaluate, and compare functions.</i>	
<i>Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.¹</i>	
<i>Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</i>	
Evaluate algebraic expressions using order of operations in function form.	D

MEASUREMENT AND DATA

Use manipulative materials to model concepts of measurement.	D
Recognize, read, write time schedules.	M
Measure using the Metric system: millimeter, centimeter, decimeter, meter; dekameter, hectometer; kilometer; milliliter, liter, kiloliter; gram, kilogram; conversions within system; temperature: Celsius.	m

Grade 8

I=Introduce

D=Develop

I/D=Intro/Dev

M=Mastery

m=maintain

DATE COMPLETED

Make inferences: Draw conclusions.	D
Communicate results.	D
Make decisions, predictions.	D

PROBLEM SOLVING

Analyze and plan a problem determining the appropriate strategy by: drawing pictures, creating original problems, determining if information is sufficient to solve, relating to an easier problem, using tables, charts, graphs, and diagrams, trial and error, working backwards, sorting classifying and using patterns, estimation, choosing correct operation.	D
Solve fraction and decimal word problems, word problems with two statements of equality, distance=rate X time.	D
<i>Check reasonableness of solution.</i>	D
Understand patterns and relationships by observing, comparing and creating; sorting and classifying by characteristics; predicting what comes next and identifying the missing element; distinguishing between growing and repeating patterns; representing information numerically, graphically, and verbally; discussing analyzing change.	D
