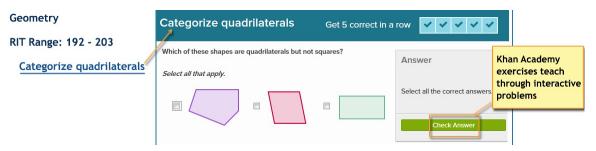


## MAP to Khan Academy:

Khan Academy Practice Exercises Correlated to RIT for Common Core Math MAP Grades 6+

#### **About this Document**

This document correlates MAP® sub-goals and RIT ranges to Khan Academy® exercises. The Khan exercises are interactive problems for students with instant feedback:



Having these exercises correlated to RIT ranges means you can use them in conjunction with your flexible student groupings that are also informed by RIT score results. The exercises are also useful for targeting learning in each student's zone of proximal development (Vygotsky).

The correlation between MAP RIT scores and the Khan Academy exercises was determined by using our 2011 norms data to approximate grade levels, which were then matched to the corresponding Common Core State Standards (CCSS). Teachers in states that have not adopted the CCSS may still find these resources valuable by relating goals or sub-goals that are similar to CCSS goals and sub-goals.

NWEA plans to work with Khan Academy to update these links twice a year as new exercises are developed.

#### **How to Use**

- 1. Use MAP reports to find the RIT scores for a given sub-goal.
- 2. In this document, locate that same goal, approximate RIT range, and sub-goals.
- 3. To choose appropriate Khan Academy exercises:
  - a. Consider both the name of the exercise and the CCSS standard.
  - Click the link and try the exercise yourself.
     Note: When you're in Khan Academy, the links to videos and other resources add context to the actual exercise but are not necessarily correlated to MAP.
- 4. In the browser window where the exercise opened, note or copy the Web address URL.
- 5. Optionally deliver exercises to students. For example:
  - Paste the URL into an online document for students to access.
  - Present the exercise in the classroom.
  - Use for parent-teacher conference discussion.

#### **Limitations**

The instructional suggestions presented in this document are intended to provide supplementary resources based on available Khan Academy exercises and are not intended to replace other options. MAP/MPG data should be used as one of many data points for instructional decisions rather than as a placement guide.

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## Common Core MAP Mathematics Khan Academy Practice Exercises Correlation Common Core Mathematics 6+

Geometry	
Congruence, Similarity, Right Triangles, & Trig	P 4
Geometric Measurement and Relationships	P 6
Operations and Algebraic Thinking	
Expressions and Equations	P 10
Use Functions to Model Relationships	P 20
Statistics and Probability	
Interpreting Categorical and Quantitative Data	P 24
Using Sampling and Probability to Make Decisions	P 27
The Real and Complex Number Systems	
Extend and Use Properties	P 28
Perform Operations	P 32
Ratios and Proportional Relationships	P 40

Congruence, Similarity, Right Triangles, & Trig	Standards Alignment
RIT Range: 203-212	
Axis of symmetry	4.G.A.3
RIT Range: 204 - 212	
Angle types	4.G.A.1
Quadrilateral types	4.G.A.2
Recognizing angles	4.G.A.1
RIT Range: 221 - 225	
Nets of 3D figures	6.G.A.4
RIT Range: 226 - 230	70.44
Constructing scale drawings	7.G.A.1
Slicing 3D figures	7.G.A.3
<u>Vertical angles</u>	7.G.B.5
RIT Range: 228-230	
Finding angle measures 1	8.G.A.5
Finding angle measures 2	8.G.A.5
Congruent angles	8.G.A.5
Distance formula	8.G.B.8
Exploring angle-preserving transformations and similarity	8.G.A.4
Exploring rigid transformations and congruence	8.G.A.2   HSG-CO.B.6   HSG-CO.B.7
Parallel lines 1	8.G.A.5
Equation practice with congruent angles	8.G.A.5
Performing reflections	8.G.A.1   8.G.A.3   HSG-CO.A.2
Performing rotations	8.G.A.1   8.G.A.3   HSG-CO.A.2
Performing translations	8.G.A.1   8.G.A.3   HSG-CO.A.2
Pythagorean theorem	8.G.B.7
Pythagorean theorem in 3D	8.G.B.7
Pythagorean Theorem proofs	8.G.B.6

Congruence, Similarity, Right Triangles, & Trig	Standards Alignment
RIT Range: 228-230	
Pythagorean theorem word problems	8.G.B.7
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RIT Range: > 231	UCC CDT C O
Applying right triangles	HSG-SRT.C.8
Congruency postulates	HSG-CO.B.7   HSG-CO.B.8
Congruent triangles 1	HSG-CO.B.6
Congruent triangles 2	HSG-CO.B.6
Compass constructions 1	HSG-CO.D.12
Compass constructions 2	HSG-CO.D.13
Defining congruence through rigid transformations	HSG-CO.B.6   HSG-CO.B.7
<u>Defining similarity through angle-preserving transformations</u>	HSG-SRT.A.2   HSG-SRT.A.3
<u>Dilations</u>	HSG-SRT.A.1
Exploring rigid transformations and congruence	8.G.A.2   HSG-CO.B.6   HSG-CO.B.7
Line and angle proofs	HSG-CO.C.9
Performing reflections	8.G.A.1   8.G.A.3   HSG-CO.A.2
Performing rotations	8.G.A.1   8.G.A.3   HSG-CO.A.2
Performing translations	8.G.A.1   8.G.A.3   HSG-CO.A.2
Special right triangles	HSG-SRT.C.8
Precisely defining rigid transformations	HSG-CO.A.2
Reflections 1	HSG-CO.A.5
Reflections 2	HSG-CO.A.5
Rotations 1	HSG-CO.A.5
Rotations 2	HSG-CO.A.5
Similar triangles 1	HSG-SRT.A.3
Similar triangles 2	HSG-SRT.A.3
Solving similar triangles 1	HSG-SRT.A.3
Solving similar triangles 2	HSG-SRT.B.5
Solving problems with similar and congruent triangles	HSG-SRT.B.5
Symmetry of two-dimensional shapes	HSG-CO.A.3

Congruence, Similarity, Right Triangles, & Trig Standards Alignment

RIT Range: > 231

Translations HSG-CO.A.5

Trigonometric functions and side ratios in right triangles

HSG-SRT.C.6 | HSG-SRT.C.7

Geometry

Geometric Measurement and Relationships Standards Alignment

RIT Range: < 160

Comparing shapesK.G.B.4Composing shapesK.G.B.6Naming shapesK.G.A.1

RIT Range: 161-178

Naming shapes 3

1.G.A.1

Measuring lengths 1

Order by length

1.MD.A.1

RIT Range: 179 - 191

Comparing lengths 2.MD.A.4

RIT Range: 179-191

Estimating lengths 2.MD.A.3

Length word problems 2.MD.B.5

Measuring lengths 2 2.MD.A.1

Measuring lengths with different units 2.MD.A.2

Naming shapes 4 2.G.A.1

RIT Range: 192 - 203

Decompose shapes to find area

3.MD.C.7

Finding area by multiplying

3.MD.C.7

RIT Range: 192-202

Comparing area and perimeter 3.MD.D.8

Geometric Measurement and Relationships	Standards Alignment
RIT Range: 192-202	
Comparing areas by multiplying	3.MD.C.7b
Arithmetic word problems with mass	3.MD.A.2
Measuring area with unit squares	3.MD.C.6
Perimeter 1	3.MD.D.8
Finding perimeter	3.MD.D.8
Perimeter 2	3.MD.D.8
<u>Understanding area</u>	3.MD.C.5   3.MD.C.5b
Arithmetic word problems with volume	3.MD.A.2
RIT Range: 203-212	
Angle types	4.G.A.1
Area problems	4.MD.A.3
Area and perimeter of rectangles word problems	4.MD.A.3
Benchmark angles	4.MD.C.5
Classifying shapes by line and angle types	4.G.A.2
Decomposing angles	4.MD.C.7
<u>Drawing angles</u>	4.MD.C.6
Drawing rays, lines, and line segments	4.G.A.1
Drawing right, acute, and obtuse angles	4.G.A.1
Converting larger units to smaller units	4.MD.A.1
Measuring angles	4.MD.C.6
Converting money word problems	4.MD.A.2
<u>Time word problems</u>	4.MD.A.2
Naming angles	4.MD.C.5
Quadrilateral types	4.G.A.2
Recognizing rays, lines, and line segments	4.G.A.1
Recognizing angles	4.G.A.1
Recognizing parallel and perpendicular lines	4.G.A.1
Recognizing triangle types	4.G.A.2

Geometric Measurement and Relationships	Standards Alignment
RIT Range: 203-212	
<u>Unit sense</u>	4.MD.A.1
RIT Range: 213 - 220	
Converting measurements word problems	5.MD.A.1
Converting units	5.MD.A.1
converting units	
RIT Range: 213-219	
Areas of rectangles with fractional side lengths	5.NF.B.4b
Coordinate plane word problems in the first quadrant	5.G.A.2
Decompose figures to find volume	5.MD.C.5   5.MD.C.5c
<u>Graphing points</u>	5.G.A.2
<u>Properties of shapes</u>	5.G.B.3
Visually understanding multiplying fractions and whole numbers	5.NF.B.4b
Understanding multiplying fractions by fractions	5.NF.B.4b
Volume 1	5.MD.C.5   5.MD.C.5b
Volume word problems	5.MD.C.5   5.MD.C.5b   5.MD.C.5c
Volume with unit cubes 1	5.MD.C.4   5.MD.C.5
Volume formula intuition	5.MD.C.5
Comparing volumes with unit cubes	5.MD.C.4   5.MD.C.5   5.MD.C.5b
RIT Range: 220-223	
Area of parallelograms	6.G.A.1
Area of triangles	6.G.A.1
Area of quadrilaterals and polygons	6.G.A.1
Area of triangles 2	6.G.A.1
Area of trapezoids, rhombi, and kites	6.G.A.1
Finding area by composing and decomposing shapes	6.G.A.1
<u>Drawing polygons</u>	6.G.A.3
Drawing polygons 2	6.G.A.3
Nets of 3D figures	6.G.A.4

Geoi	metric Measurement and Relationships	Standards Alignment
RIT R	ange: 220-223	
	Rectangles on the coordinate plane	6.G.A.3
	Surface area using nets	6.G.A.4
	Surface area	6.G.A.4
	Volume with fractions	6.G.A.2
	Volume with unit cubes 2	6.G.A.2
	Volume word problems with fractions and decimals	6.G.A.2
RIT R	ange: 224-227	
	Area of a circle	7.G.B.4
	Area and circumference of circles	7.G.B.4
	Complementary and supplementary angles	7.G.B.5
	Constructing 2D figures	7.G.A.2
	Constructing scale drawings	7.G.A.1
	Constructing triangles	7.G.A.2
	Interpreting scale drawings	7.G.A.1
	<u>Quadrilateral angles</u>	7.G.B.5
	Radius, diameter, and circumference	7.G.B.4
	Slicing 3D figures	7.G.A.3
	Solving for unknown angles	7.G.B.5
	<u>Vertical angles</u>	7.G.B.5
RIT R	ange: 228-230	
	Solid geometry	8.G.C.9
	Volume word problems with cones, cylinders, and spheres	8.G.C.9   HSG-GMD.A.3
RIT R	ange: > 231	
	Areas of circles and sectors	HSG-C.B.5
	Radians and arc length	HSG-C.B.5
	Central, inscribed, and circumscribed angles	HSG-C.A.2   HSG-C.A.3
	<u>Circles and arcs</u>	HSG-C.B.5

Geometric Measurement and Relationships	Standards Alignment	
RIT Range: > 231		
Coordinate plane word problems with polygons	HSG-GPE.B.7	
Cross sections of 3D objects	HSG-GMD.B.4	
Defining similarity through angle-preserving transformations	HSG-C.A.1	
<u>Dividing line segments</u>	HSG-GPE.B.6	
Equation of a circle in factored form	HSG-GPE.A.1	
Equation of a circle in non-factored form	HSG-GPE.A.1	
Geometry problems on the coordinate plane	HSG-GPE.B.4	
Inscribed angles 1	HSG-C.A.2	
Inscribing and circumscribing circles on a triangle	HSG-C.A.3	
Equations of parallel and perpendicular lines	HSG-GPE.B.5	
Midpoint formula	HSG-GPE.B.6	
Parabola intuition 1	HSG-GPE.A.2	
Parabola intuition 2	HSG-GPE.A.2	
Parabola intuition 3	HSG-GPE.A.2	
Pythagorean theorem and the equation of a circle	HSG-GPE.A.1	
Rotate 2D shapes to make 3D objects	HSG-GMD.B.4	
Volume word problems with cones, cylinders, and spheres	8.G.C.9   HSG-GMD.A.3	
RIT Range: 231 - 234		
Parallel lines 1	8.G.A.5	
Parallel lines 2	8.G.A.5	
RIT Range: > 235		
Constructing a line tangent to a circle	HSG-C.A.4	
Surface and volume density word problems	HSG-MG.A.2	
Operations and Algebraic Thinking		
Expressions and Equations	Standards Alignment	
RIT Range: 226 - 230		
Order of operations with negative numbers	7.EE.A.3	

Expressions and Equations	Standards Alignment
RIT Range: < 160	
Put together	K.OA.A.1
<u>Take apart</u>	K.OA.A.1
RIT Range: 161 - 178	
	1.OA.D.7
Meaning of equal sign 1	2.07.11.2.7
RIT Range: 161-178	
Adding three numbers	1.OA.A.2
Addition and subtraction within 10	1.OA.D.8
Addition and subtraction word problems 1	1.OA.A.1
Addition and subtraction word problems 2	1.OA.A.1
Word problems with "more" and "fewer" 1	1.OA.A.1
Word problems with "more" and "fewer" 2	1.OA.A.1
Relate addition and subtraction	1.OA.B.4
Two-digit place value challenge	1.NBT.B.2
RIT Range: 179-191	
Adding and subtracting within 1000 using a number line	2.NBT.B.7
Addition and subtraction within 100 word problems 1	2.OA.A.1
Addition and subtraction within 100 word problems 2	2.OA.A.1
Word problems within 100 with "more" and "fewer" 1	2.OA.A.1
Word problems within 100 with "more" and "fewer" 2	2.OA.A.1
Adding and subtracting using a number line	2.NBT.B.7
Adding 10s and 100s (no regrouping)	2.NBT.B.7
Adding two- and three-digit numbers (no regrouping)	2.NBT.B.7
Comparing lengths	2.OA.A.1
Find the missing number (addition and subtraction within 100)	2.OA.A.1
Length word problems	2.OA.A.1
Solving problems with picture graphs 1	2.OA.A.1
Subtracting 10s and 100s (no regrouping)	2.NBT.B.7

Expressions and Equations	Standards Alignment
RIT Range: 179-191	
Subtracting two- and three-digit numbers (no regrouping)	2.NBT.B.7
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RIT Range: 192-202	2 NDT 4 2
Addition within 1000	3.NBT.A.2
Basic division	3.OA.A.4
1-digit division	3.OA.A.4
Addition using groups of 10 and 100	3.NBT.A.2
Meaning of multiplication	3.OA.A.1
<u>Properties of multiplication</u>	3.OA.B.5
Relate division to multiplication	3.OA.B.6
Relate division to multiplication word problems	3.OA.B.6
Solving basic multiplication and division equations	3.OA.A.4
Subtraction within 1000	3.NBT.A.2
Two-step word problems with addition, subtraction, multiplication, and	3.OA.D.8
<u>division</u>	
RIT Range: 203-212	
Multiplication and division word problems	4.OA.A.2
Multiplication without carrying	4.NBT.B.5
Multiplication with carrying	4.NBT.B.5
Multiplying 2 digits by 2 digits	4.NBT.B.5
Multiplication using place value understanding	4.NBT.B.5
Multiplying 2 digits by 2 digits with area models	4.NBT.B.5
Multiplying 4 digits by 1 digit with visual models	4.NBT.B.5
Multi-step word problems with whole numbers	4.OA.A.3
DIT Dongo, 204, 242	
RIT Range: 204 - 212	4.00.01
Comparing with multiplication	4.OA.A.1
RIT Range: 213-219	
Adding fractions with unlike denominators	5.NF.A.1
<del></del>	

Expressions and Equations	Standards Alignment
RIT Range: 213-219	
Adding and subtracting mixed numbers with unlike denominators	5.NF.A.1
Creating expressions with parentheses	5.OA.A.2
Division by 2 digits	5.NBT.B.6
Evaluating expressions with parentheses	5.OA.A.1
Multiplying and dividing decimals by powers of 10	5.NBT.A.2
Multiplying and dividing whole numbers by powers of 10	5.NBT.A.2
Multiplying fractions by fractions word problems	5.NF.B.6
Powers of ten	5.NBT.A.2
Subtracting fractions with unlike denominators	5.NF.A.1
Translating expressions with parentheses	5.OA.A.2
<u>Understanding moving the decimal</u>	5.NBT.A.2
RIT Range: 220-223	
Combining like terms	6.EE.A.3
Combining like terms with distribution	6.EE.A.3
Dependent and independent variables	6.EE.C.9
Distributive property with variables	6.EE.A.3
Writing one-step equations word problems	6.EE.B.6   6.EE.B.7
Equivalent expressions with distribution and combining like terms	6.EE.A.3   6.EE.A.4
Evaluating expressions with one variable	6.EE.A.2c
Evaluating expressions with two variables	6.EE.A.2c
Evaluating expressions with variables word problems	6.EE.A.2   6.EE.A.2c
Evaluating expressions with two variables with fractions and decimals	6.EE.A.2c
Order of operations 2	6.EE.A.1
Expression value intuition	6.EE.A.2c
Find the mistake in solving one-step equations	6.EE.B.7
Identifying terms, factors, and coefficients in expressions	6.EE.A.2b
Inequalities on a number line	6.EE.B.8
Writing inequalities to describe real-world situations	6.EE.B.6   6.EE.B.8

Expre	essions and Equations	Standards Alignment
RIT R	ange: 220-223	
	One-step equations with multiplication and division	6.EE.B.7   HSA-REI.B.3
	One-step equation intuition	6.EE.B.7
	One-step equations with addition and subtraction	6.EE.B.7   HSA-REI.B.3
	One-step addition and subtraction equations with fractions and decimals	6.EE.B.7
	One-step multiplication and division equations with fractions and decimals	6.EE.B.7
	Order of operations	6.EE.A.2c
	<u>Exponents</u>	6.EE.A.1
	Powers of fractions	6.EE.A.1
	Testing solutions of equations using substitution	6.EE.B.5
	<u>Testing solutions of inequalities</u>	6.EE.B.8
	Writing expressions with variables	6.EE.A.2   6.EE.A.2a   6.EE.A.2b
	Writing expressions with variables and parentheses	6.EE.A.2   6.EE.A.2a   6.EE.A.2b
	Writing basic algebraic expressions word problems 2	6.EE.A.2   6.EE.A.2a
	Writing basic expressions with variables	6.EE.A.2   6.EE.A.2a   6.EE.A.2b
	Writing basic algebraic expressions word problems	6.EE.A.2   6.EE.A.2a
RIT R	ange: 224-227	
	Combining like terms with negative coefficients	7.EE.A.1
	Combining like terms with distribution and negative numbers	7.EE.A.1
	Combining like terms with rational coefficients	7.EE.A.1
	Discount, tax, and tip word problems	7.EE.B.3
	Equivalent expressions with negative numbers and the distributive property	<b>∠</b> 7.EE.A.1
	Factoring algebraic expressions using the distributive property	7.EE.A.1
	Find the mistake in solving two-step equations	7.EE.B.4a
	Interpreting linear expressions	7.EE.A.2
	Interpreting and solving linear inequalities	7.EE.B.4b
	<u>Two-step equations</u>	7.EE.B.4   7.EE.B.4a   HSA-REI.B.3
	<u>Linear equation word problems</u>	7.EE.B.4   7.EE.B.4a
	Manipulating basic expressions with rational coefficients	7.EE.A.1

Expressions and Equations	Standards Alignment	
RIT Range: 224-227		
Markup and commission word problems	7.EE.B.3	
Multi-step rational number word problems	7.EE.B.3	
One-step inequalities	7.EE.B.4b   HSA-REI.B.3	
Two-step inequalities	7.EE.B.4b	
Two-step equations with decimals and fractions	7.EE.B.4a	
RIT Range: 228-230		
Adding and subtracting in scientific notation	8.EE.A.4	
Age word problems	8.EE.C.8   8.EE.C.8c	
Equation practice with angle addition	8.EE.C.7b	
Approximating with powers of 10	8.EE.A.3	
Rates and proportional relationships	8.EE.B.5	
Computing in scientific notation	8.EE.A.4	
Analyzing solutions to linear systems algebraically	8.EE.C.8   8.EE.C.8a   8.EE.C.8b   HSA-SSE.B.3	
<u>Cube roots</u>	8.EE.A.2	
Equations with square roots and cube roots	8.EE.A.2	
<u>Using exponent rules to evaluate expressions</u>	8.EE.A.1	
Positive and negative exponents	8.EE.A.1	
Graph from a standard form equation	8.EE.C.7   HSA-REI.D.10	
Analyzing solutions to linear systems graphically	8.EE.C.8   8.EE.C.8a   8.EE.C.8b   HSA- REI.D.10   HSA-REI.D.11	
Solving systems of equations graphically	8.EE.C.8   8.EE.C.8a   8.EE.C.8b   HSA-REI.C.6   HSA-REI.D.10   HSA-REI.D.11	
Graphing proportional relationships	8.EE.B.5	
Graphing solutions to two-variable linear equations	8.EE.C.7   HSA-REI.B.3   HSA-REI.D.10	
Equation practice: summing integers	8.EE.C.7b	
Equations with variables on both sides	8.EE.C.7   8.EE.C.7b   HSA-REI.B.3	
Equation practice with midpoints	8.EE.C.7b	
More square and cube root problems	8.EE.A.2	
Multiplying and dividing scientific notation	8.EE.A.4	

Expressions and Equations	Standards Alignment
RIT Range: 228-230	
Multi-step equations with distribution	8.EE.C.7   8.EE.C.7b   HSA-REI.B.3
Multiplication and division with powers of ten	8.EE.A.3
Properties of exponents	8.EE.A.1
Roots of decimals and fractions	8.EE.A.2
Scientific notation	8.EE.A.4
Scientific notation intuition	8.EE.A.4
Equation practice with segment addition	8.EE.C.7b
Slope-intercept equation from two solutions	8.EE.C.7b   HSA-REI.D.10
Linear equations with one, zero, or infinite solutions	8.EE.C.7   8.EE.C.7a
Square roots of perfect squares	8.EE.A.2
Solving systems of two linear equations	8.EE.C.8   8.EE.C.8b   HSA-APR.A.1   HSA-REI.C.6   HSA-SSE.B.3
Solving systems of linear equations with elimination 2	8.EE.C.8   8.EE.C.8b   HSA-APR.A.1   HSA-REI.C.6   HSA-SSE.B.3
Solving systems of linear equations with elimination 1	8.EE.C.8   8.EE.C.8b   HSA-APR.A.1   HSA-REI.C.6
Solving systems of linear equations with substitution	8.EE.C.8   8.EE.C.8b   HSA-REI.C.6   HSA-SSE.B.3
Equivalent systems of equations	8.EE.C.8   8.EE.C.8b   HSA-APR.A.1   HSA-REI.C.5
Systems of linear equations word problems	8.EE.C.8   8.EE.C.8b   8.EE.C.8c   HSA-APR.A.1   HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6   HSA-SSE.B.3
Checking solutions to systems of equations	8.EE.C.8
Equation practice with vertical angles	8.EE.C.7b
RIT Range: > 231	
Adding and subtracting polynomials with one variable	HSA-APR.A.1
Adding and subtracting polynomials with two variables	HSA-APR.A.1
Checking solutions of systems of inequalities	HSA-CED.A.3
Checking solutions of two-variable linear inequalities	HSA-CED.A.3
Solving quadratics by completing the square 1	HSA-REI.B.4   HSA-REI.B.4a   HSA-SSE.B.3   HSA-SSE.B.3b

Operations and Algebraic Thinking		
Expressions and Equations	Standards Alignment	
RIT Range: > 231		
Solving quadratics by completing the square 2	HSA-REI.B.4   HSA-REI.B.4a   HSA-SSE.B.3   HSA-SSE.B.3b	
Completing the square in quadratic expressions	HSA-SSE.B.3b	
Compound inequalities	HSA-REI.B.3	
<u>Linear models word problems</u>	HSA-CED.A.2   HSA-CED.A.4	
Analyzing solutions to linear systems algebraically	8.EE.C.8   8.EE.C.8a   8.EE.C.8b   HSA-SSE.B.3	
Converting between slope-intercept and standard form	HSA-SSE.B.3	
Equivalent forms of exponential expressions	HSA-SSE.B.3   HSA-SSE.B.3c	
Equivalent forms of polynomial expressions	HSA-SSE.A.2	
Expressions with unknown variables	HSA-SSE.A.2	
Expressions with unknown variables 2	HSA-SSE.A.2	
Factoring simple special products	HSA-SSE.A.1a   HSA-SSE.A.2   HSA-SSE.B.3a	
Factoring differences of squares	HSA-SSE.A.1a   HSA-SSE.A.2   HSA-SSE.B.3a	
Making use of structure 2 - Factoring polynomials with special product forms	HSA-SSE.A.2   HSA-SSE.B.3	
Factoring quadratics with a leading coefficient of 1	HSA-SSE.A.1a   HSA-SSE.A.2   HSA-SSE.B.3   HSA-SSE.B.3a	
Factoring polynomials using quadratic methods	HSA-SSE.A.1a   HSA-SSE.A.2   HSA-SSE.B.3	
Factoring quadratics with a leading coefficient other than 1	HSA-SSE.A.1a   HSA-SSE.B.3	
Making use of structure 1 - Factoring polynomials with quadratic forms	HSA-SSE.A.2	
Factoring perfect squares	HSA-SSE.A.1a   HSA-SSE.A.2   HSA-SSE.B.3a	
Factoring polynomials by taking a common factor	HSA-SSE.A.1a	
Factors and divisibility	HSA-SSE.A.1a	
Finding special products of binomials (advanced)	HSA-APR.A.1	
Multiplying monomials by polynomials	HSA-APR.A.1	
Multiplying monomials by monomials	HSA-APR.A.1	
Graph from slope-intercept equation	HSA-REI.D.10	
Graph from a standard form equation	8.EE.C.7   HSA-REI.D.10	
Analyzing solutions to linear systems graphically	8.EE.C.8   8.EE.C.8a   8.EE.C.8b   HSA- REI.D.10   HSA-REI.D.11	

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HSA-CED.A.3

Completing solutions of two-variable linear inequalities

#### **Expressions and Equations** Standards Alignment

RIT Range: > 231

Graphing inequalities and checking solutions

HSA-CED.A.3 | HSA-REI.D.12

Solving systems of equations graphically 8.EE.C.8 | 8.EE.C.8a | 8.EE.C.8b | HSA-REI.C.6

| HSA-REI.D.10 | HSA-REI.D.11

Completing solutions of systems of two-variable linear inequalities

HSA-CED.A.3

Graphing systems of inequalities and checking solutions

HSA-CED.A.3 | HSA-REI.D.12

Graphing linear functions word problems

HSA-REI.D.10

Graphing solutions to two-variable linear equations

8.EE.C.7 | HSA-REI.B.3 | HSA-REI.D.10

<u>Finding the inequality representing the graph</u>

HSA-CED.A.3

Intercepts from a table

HSA-REI.D.10

Interpreting linear formulas word problems

HSA-SSE.A.1 | HSA-SSE.A.1a

<u>Interpreting graphs of linear and nonlinear functions</u>

HSA-REI.D.10

Interpreting linear graphs word problems

HSA-REI.D.10

Interpreting the structure of expressions

HSA-SSE.A.1 | HSA-SSE.A.1a | HSA-SSE.A.1b

Intersecting functions HSA-REI.D.11

Finding and interpreting key features of quadratics HSA-SSE.B.3 | HSA-SSE.B.3a | HSA-SSE.B.3b

One-step equations with multiplication and division 6.EE.B.7 | HSA-REI.B.3

Two-step equations 7.EE.B.4 | 7.EE.B.4a | HSA-REI.B.3

Equations with variables on both sides 8.EE.C.7 | 8.EE.C.7b | HSA-REI.B.3

Multi-step linear inequalities HSA-REI.B.3

Manipulating formulas HSA-CED.A.4

Two-variable linear inequalities word problems

HSA-CED.A.3 | HSA-SSE.A.1

Systems of linear inequalities word problems

HSA-CED.A.3 | HSA-SSE.A.1

Multiplying binomials by binomials

HSA-APR.A.1

Finding special products of binomials (basic)

HSA-APR.A.1

Multiplying binomials by polynomials

HSA-APR.A.1

Multi-step equations with distribution 8.EE.C.7 | 8.EE.C.7b | HSA-REI.B.3

Nested fractions HSA-SSE.A.2

One-step equations with addition and subtraction 6.EE.B.7 | HSA-REI.B.3

One-step inequalities 7.EE.B.4b | HSA-REI.B.3

Operations and Algebraic Thinking	
Expressions and Equations	Standards Alignment
RIT Range: > 231	
Checking solutions to two-variable linear equations	HSA-REI.D.10
Using the quadratic formula	HSA-REI.B.4   HSA-REI.B.4b
Quadratic formula with complex solutions	HSA-REI.B.4   HSA-REI.B.4b   HSN-CN.C.7
Rewriting and interpreting exponential functions	HSA-SSE.B.3   HSA-SSE.B.3c
Key features of quadratic functions	HSA-SSE.B.3   HSA-SSE.B.3a   HSA-SSE.B.3b
Slope from a graph	HSA-REI.D.10
Slope from an equation in slope-intercept form	HSA-REI.D.10
Slope from an equation in standard form	HSA-REI.D.10
Slope from two solutions	HSA-REI.D.10
Slope-intercept equation from a graph	HSA-REI.D.10
Slope-intercept equation from two solutions	8.EE.C.7b   HSA-REI.D.10
Solutions to quadratic equations	HSA-REI.B.4   HSA-REI.B.4b
Solving equations in terms of a variable	HSA-CED.A.4
Solving quadratics by factoring	HSA-REI.B.4   HSA-REI.B.4b   HSA-SSE.B.3   HSA-SSE.B.3a
Solving quadratics by factoring 2	HSA-REI.B.4   HSA-REI.B.4b   HSA-SSE.B.3   HSA-SSE.B.3a
Solving quadratics by taking the square root	HSA-REI.B.4   HSA-REI.B.4b
Structure in expressions 1	HSA-SSE.A.1   HSA-SSE.A.1a   HSA-SSE.A.1b
Solving systems of two linear equations	8.EE.C.8   8.EE.C.8b   HSA-APR.A.1   HSA-REI.C.6   HSA-SSE.B.3
Solving systems of linear equations with elimination 2	8.EE.C.8   8.EE.C.8b   HSA-APR.A.1   HSA-REI.C.6   HSA-SSE.B.3
Solving systems of linear equations with elimination 1	8.EE.C.8   8.EE.C.8b   HSA-APR.A.1   HSA-REI.C.6
Solving systems of linear equations with substitution	8.EE.C.8   8.EE.C.8b   HSA-REI.C.6   HSA-SSE.B.3
Systems of nonlinear equations	HSA-REI.C.7   HSA-REI.D.11
Equivalent systems of equations	8.EE.C.8   8.EE.C.8b   HSA-APR.A.1   HSA-REI.C.5
Systems of linear equations word problems	8.EE.C.8   8.EE.C.8b   8.EE.C.8c   HSA-APR.A.   HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6

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<u>Understanding the process for solving quadratic equations</u>

| HSA-CED.A.2 | HSA-CED.A.3 | HSA-REI.C.6 |

HSA-SSE.B.3

HSA-REI.A.1

**Expressions and Equations** Standards Alignment

RIT Range: > 231

Understanding the process for solving linear equations

HSA-REI.A.1

Vertex of a parabola HSA-SSE.B.3 | HSA-SSE.B.3b

Generating input-output pairs of a function

HSA-REI.D.10

Writing the equation of a line in any form

HSA-REI.D.10

**Operations and Algebraic Thinking** 

Use Functions to Model Relationships Standards Alignment

RIT Range: 213-219

<u>Coordinate plane word problems in the first quadrant</u>
5.G.A.2

Graphing points 5.G.A.2

RIT Range: 228-230

Comparing linear functions 8.F.A.2 | HSF-IF.C.9

Comparing linear functions word problems

8.F.A.2 | HSF-IF.C.9 | HSF-LE.B.5

Constructing linear functions word problems 8.F.B.4 | HSF-BF.A.1 | HSF-BF.A.1a | HSF-

LE.A.2 | HSF-LE.B.5

Domain and range from graph 8.F.A.1 | HSF-IF.A.1 | HSF-IF.B.5

Domain of algebraic functions 8.F.A.1 | HSF-IF.A.1 | HSF-IF.B.5

<u>Interpreting function notation word problems</u>

8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

Evaluating functions 8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

Evaluating function expressions 8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

Matching inputs to function outputs

8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

Writing function rules from equations 8.F.A.1 | HSF-IF.A.2 | HSF-LE.A.2

Graph from slope-intercept equation 8.F.A.1 | 8.F.A.3 | HSF-IF.C.7a

Graph from a standard form equation 8.F.A.1 | HSF-IF.C.7a

Graphing solutions to two-variable linear equations 8.F.A.1 | HSF-IF.C.7a

Increasing and decreasing intervals 8.F.B.5 | HSF-IF.B.4

Intercepts from a table 8.F.A.1

Interpreting graphs word problems 8.F.B.5 | HSF-IF.B.4

<u>Domain of modeling functions</u>

8.F.A.1 | HSF-IF.A.1 | HSF-IF.B.5

**Comparing linear functions** 

**Comparing linear functions word problems** 

Operations and Algebraic Thinking	
Use Functions to Model Relationships	Standards Alignment
RIT Range: 228-230	
Interpreting linear formulas word problems	8.F.A.3   8.F.B.4   HSF-LE.B.5
Interpreting graphs of linear and nonlinear functions	8.F.B.5
Intercepts from a graph	8.F.A.1
Linear and nonlinear functions	8.F.A.3
Checking solutions to two-variable linear equations	8.F.A.1
Positive and negative intervals	8.F.B.5   HSF-IF.B.4
Recognizing functions from graphs	8.F.A.1   HSF-IF.A.1
Recognizing maxima and minima	8.F.B.5   HSF-IF.B.4
Recognizing functions from tables	8.F.A.1   HSF-IF.A.1
Slope from a graph	8.F.B.4   HSF-IF.C.7a   HSF-LE.A.2
Slope from an equation in slope-intercept form	8.F.B.4
Slope from an equation in standard form	8.F.B.4   HSF-IF.C.7a   HSF-IF.C.8b   HSF-LE.A.2
Slope from two solutions	8.F.B.4   HSF-IF.C.7a   HSF-LE.A.2
Slope-intercept equation from a graph	8.F.A.1   8.F.A.3   8.F.B.4   HSF-LE.A.2
Slope-intercept equation from two solutions	8.F.A.1   8.F.A.3   8.F.B.4   HSF-LE.A.2
Intercepts from a linear equation	8.F.A.3   HSF-IF.C.7a
Generating input-output pairs of a function	8.F.A.1   HSF-IF.A.1   HSF-IF.A.2
Writing the equation of a line in any form	8.F.A.1   8.F.A.3   8.F.B.4   HSF-IF.C.7a   HSF- LE.A.2
RIT Range: > 231	
Algebraically finding inverses	HSF-BF.B.4a
Amplitude of trigonometric functions	HSF-IF.C.7e
Evaluating arithmetic sequences 1	HSF-IF.A.3
Evaluating arithmetic sequences 2	HSF-IF.A.3
Average rate of change word problems	HSF-IF.B.6
Finding average rate of change	HSF-IF.B.6
Modeling with combined functions	HSF-BF.A.1b

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8.F.A.2 | HSF-IF.C.9

8.F.A.2 | HSF-IF.C.9 | HSF-LE.B.5

#### Use Functions to Model Relationships

RIT Range: > 231

<u>Comparing features of functions</u>

<u>Comparing growth rates of exponentials and polynomials</u>

HSF-IF.C.9

HSF-LE.A.3

<u>Linear models word problems</u>

HSF-BF.A.1 | HSF-BF.A.1a | HSF-LE.A.2 | HSF-LE.B.5

Constructing linear and exponential functions

HSF-LE.A.2

Constructing linear functions word problems

8.F.B.4 | HSF-BF.A.1 | HSF-BF.A.1a | HSF-

LE.A.2 | HSF-LE.B.5

**Standards Alignment** 

Point-slope form HSF-IF.C.7a | HSF-LE.A.2 | HSF-LE.B.5

Converting between slope-intercept and standard form HSF-IF.C.8

Domain and range from graph 8.F.A.1 | HSF-IF.A.1 | HSF-IF.B.5

Domain of a function HSF-IF.A.1 | HSF-IF.B.5

Domain and range of piecewise functions

HSF-IF.A.1 | HSF-IF.B.5

Domain of algebraic functions 8.F.A.1 | HSF-IF.A.1 | HSF-IF.B.5

Equivalent forms of exponential expressions

HSF-IF.C.8 | HSF-IF.C.8b

Evaluating piecewise functions

HSF-IF.A.1 | HSF-IF.A.2

Evaluating sequences in recursive form HSF-IF.A.1 | HSF-IF.A.2 | HSF-IF.A.3

Even and odd functions HSF-BF.B.3

Explicit formulas for arithmetic sequences HSF-BF.A.2 | HSF-IF.A.1 | HSF-IF.A.3

<u>Interpreting function notation word problems</u>

8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

Evaluating functions 8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

<u>Evaluating function expressions</u>

8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

Evaluating composite functions

HSF-BF.A.1

Matching inputs to function outputs 8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

Writing function rules from equations 8.F.A.1 | HSF-IF.A.2 | HSF-LE.A.2

Evaluating geometric sequences 1 HSF-IF.A.3

Evaluating geometric sequences 2 HSF-IF.A.3

Graph from slope-intercept equation 8.F.A.1 | 8.F.A.3 | HSF-IF.C.7a

Graph from a standard form equation 8.F.A.1 | HSF-IF.C.7a

Graphing parabolas in standard form HSF-IF.C.7a

Graphing parabolas in vertex form HSF-IF.C.7a

Recognizing functions from graphs

Recognizing maxima and minima

Recognizing functions from tables

#### Use Functions to Model Relationships Standards Alignment

RIT Range: > 231

HSF-IF.C.7a Graphing parabolas in all forms HSF-IF.C.7a **Graphing linear functions word problems** HSF-IF.C.7b Graphs of piecewise nonlinear functions 8.F.A.1 | HSF-IF.C.7a Graphing solutions to two-variable linear equations HSF-IF.C.7b Graphs of absolute value functions **Graphs of exponentials and logarithms** HSF-IF.C.7e HSF-IF.C.7b Graphs of square root functions HSF-IF.C.7e **Graphs of trigonometric functions** 8.F.B.5 | HSF-IF.B.4 Increasing and decreasing intervals 8.F.B.5 | HSF-IF.B.4 Interpreting graphs word problems 8.F.A.1 | HSF-IF.A.1 | HSF-IF.B.5 Domain of modeling functions 8.F.A.3 | 8.F.B.4 | HSF-LE.B.5 Interpreting linear formulas word problems HSF-IF.C.7a | HSF-LE.B.5 Interpreting linear graphs word problems HSF-IF.B.4 | HSF-LE.A.2 | HSF-LE.B.5 **Interpreting linear tables word problems** HSF-BF.B.4a Inverses of linear functions HSF-IF.C.8 | HSF-IF.C.8a Finding and interpreting key features of quadratics HSF-IF.C.7a Slope intuition HSF-IF.C.7e Midline of trigonometric functions HSF-BF.A.1b Modeling with combined functions HSF-BF.A.1 Modeling with composite functions HSF-LF.B.5 Modeling with exponential functions HSF-IF.C.7e Period of trigonometric functions HSF-IF.A.1 | HSF-IF.C.7b Graphs of piecewise linear functions 8.F.B.5 | HSF-IF.B.4 Positive and negative intervals HSF-IF.A.1 Range of a function **Recognizing features of functions** HSF-IF.B.4

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8.F.A.1 | HSF-IF.A.1

8.F.B.5 | HSF-IF.B.4

8.F.A.1 | HSF-IF.A.1

#### **Use Functions to Model Relationships**

RIT Range: > 231

Modeling with sequences

HSF-BF.A.1 | HSF-BF.A.2 | HSF-BF

IF.A.3 | HSF-LE.A.1b | HSF-LE.A.1c

**Standards Alignment** 

Recursive formulas for arithmetic sequences

HSF-BF.A.2 | HSF-IF.A.1 | HSF-IF.A.3

Recursive formulas for geometric sequences

HSF-BF.A.2 | HSF-IF.A.1 | HSF-IF.A.3

Rewriting and interpreting exponential functions

HSF-IF.C.8 | HSF-IF.C.8b

Key features of quadratic functions

HSF-IF.C.8 | HSF-IF.C.8a

Explicit formulas for geometric sequences

HSF-BF.A.2 | HSF-IF.A.1 | HSF-IF.A.3

Shifting and reflecting functions

HSF-BF.B.3

Slope from a graph

8.F.B.4 | HSF-IF.C.7a | HSF-LE.A.2

Slope from an equation in standard form

8.F.B.4 | HSF-IF.C.7a | HSF-IF.C.8b | HSF-LE.A.2

Slope from two solutions 8.F.B.4 | HSF-IF.C.7a | HSF-LE.A.2

Slope-intercept equation from a graph

8.F.A.1 | 8.F.A.3 | 8.F.B.4 | HSF-LE.A.2

Slope-intercept equation from two solutions 8.F.A.1 | 8.F.A.3 | 8.F.B.4 | HSF-LE.A.2

Intercepts from a linear equation 8.F.A.3 | HSF-IF.C.7a

<u>Understanding linear and exponential models</u>

HSF-LE.A.1a | HSF-LE.A.1b | HSF-LE.A.1c

Generating input-output pairs of a function 8.F.A.1 | HSF-IF.A.1 | HSF-IF.A.2

Writing the equation of a line in any form 8.F.A.1 | 8.F.A.3 | 8.F.B.4 | HSF-IF.C.7a | HSF-

LE.A.2

### **Statistics and Probability**

Interpreting Categorical and Quantitative Data Standards Alignment

RIT Range: 161-178

Solving problems with bar graphs 1 1.MD.C.4

RIT Range: 179-191

Making line plots, bar graphs, and picture graphs 2.MD.D.9

Solving problems with bar graphs 2 2.MD.D.10

Solving problems with line plots 1 2.MD.D.9

Solving problems with picture graphs 1 2.MD.D.10

Interpreting Categorical and Quantitative Data	Standards Alignment
RIT Range: 192 - 203	
<u>Creating line plots</u>	3.MD.B.4
RIT Range: 192-202	
Creating bar charts	3.MD.B.3
Creating picture and bar graphs 2	3.MD.B.3
Reading bar charts 1	3.MD.B.3
Reading bar charts 2	3.MD.B.3
Reading pictographs 1	3.MD.B.3
Reading pictographs 2	3.MD.B.3
Solving problems with bar graphs 3	3.MD.B.3
Solving problems with picture graphs 2	3.MD.B.3
RIT Range: 203-212	
Interpreting dot plots with fraction addition and subtraction	4.MD.B.4
RIT Range: 213-219	
Interpreting dot plots with fraction operations	5.MD.B.2
RIT Range: 220-223	
Reading box plots	6.SP.A.2   6.SP.A.3   6.SP.B.4   6.SP.B.5
Reading dot plots and frequency tables	6.SP.B.4
Creating box plots 2	6.SP.B.4
Calculating the interquartile range (IQR)	6.SP.B.5c   6.SP.B.5d
Calculating the mean	6.SP.B.5c
Calculating the mean absolute deviation (MAD)	6.SP.B.5c   6.SP.B.5d
Calculating the mean from data displays	6.SP.B.4   6.SP.B.5c
Calculating the median	6.SP.B.5c
Calculating the median from data displays	6.SP.B.5c
Clusters, gaps, peaks, and outliers	6.SP.A.2
Creating box plots 1	6.SP.B.4

Interpreting Categorical and Quantitative Data	Standards Alignment
RIT Range: 220-223	
Creating dot plots	6.SP.B.4
Creating frequency tables	6.SP.B.4
Creating histograms	6.SP.B.4
Exploring mean and median	6.SP.B.5d
Find a missing value given the mean	6.SP.B.5c
Interpreting quartiles	6.SP.B.4   6.SP.B.5c
Data set warm-up	6.SP.B.5a
Mean, median, and mode	6.SP.B.5c
Median and range puzzlers	6.SP.B.5c
Reading bar charts 3	6.SP.B.5
Reading histograms	6.SP.B.4
Shape of distributions	6.SP.A.2
<u>Statistical questions</u>	6.SP.A.1
RIT Range: 224-227	
Comparing populations	7.SP.B.3   7.SP.B.4
RIT Range: 226 - 230	
Average word problems	6.SP.B.5.c
RIT Range: 228-230	
Constructing scatter plots	8.SP.A.1
Interpreting two-way tables	8.SP.A.4
Interpreting scatter plots	8.SP.A.1
Linear models of bivariate data	8.SP.A.3   HSS-ID.B.6   HSS-ID.B.6a   HSS-ID.B.6c   HSS-ID.C.7
Estimating the line of best fit	8.SP.A.2   HSS-ID.B.6   HSS-ID.B.6c
Two-way frequency tables	8.SP.A.4
Two-way relative frequency tables	8.SP.A.4

#### Interpreting Categorical and Quantitative Data

**Standards Alignment** 

RIT Range: > 231

Exploring standard deviation HSS-ID.A.3

Fitting quadratic and exponential functions to scatter plots

HSS-ID.B.6 | HSS-ID.B.6a | HSS-ID.B.6a

Interpreting and comparing data distributions

HSS-ID.A.1 | HSS-ID.A.2 | HSS-ID.A.3

Linear models of bivariate data

8.SP.A.3 | HSS-ID.B.66 | HSS-ID.B.6a |

ID.B.6c | HSS-ID.C.7

Estimating the line of best fit 8.SP.A.2 | HSS-ID.B.6 | HSS-ID.B.6c

Standard deviation of a population HSS-ID.A.2

Trends in categorical data

HSS-ID.B.5

Types of statistical studies

HSS-ID.C.9

### **Statistics and Probability**

**Using Sampling and Probability to Make Decisions** 

**Standards Alignment** 

RIT Range: 224-227

<u>Probabilities of compound events</u> 7.SP.C.8a | 7.SP.C.8b

Probability of rolling dice 7.SP.C.8b

Experimental probability 7.SP.C.6

Making inferences from random samples 7.SP.A.1

Simple probability 7.SP.C.7 | 7.SP.C.7a

Probability models 7.SP.C.7 | 7.SP.C.7b

Sample spaces for compound events 7.SP.C.8b

Comparing probabilities 7.SP.C.5

Making predictions with probability 7.SP.C.7 | 7.SP.C.7a

Valid claims 7.SP.A.1

RIT Range: > 231

Adding probabilities HSS-CP.B.7

Basic set notation HSS-CP.A.1

Dependent probability

HSS-CP.B.6

Describing subsets of sample spaces

HSS-CP.A.1

Identifying dependent and independent events

HSS-CP.A.2 | HSS-CP.A.3

Using Sampling and Probability to Make Decisions

**Standards Alignment** 

RIT Range: > 231

Trends in categorical data

HSS-CP.A.4 | HSS-CP.A.5 | HSS-CP.B.6

### **The Real and Complex Number Systems**

Extend and Use Properties Standards Alignment

RIT Range: < 160

Comparing numbers of objects K.CC.C.6

Teen numbers K.NBT.A.1

RIT Range: 161-178

Comparing two-digit numbers 1.NBT.B.3

Groups of ten objects 1.NBT.B.2 | 1.NBT.B.2c

Halves and fourths 1.G.A.3

Two-digit place value challenge 1.NBT.B.2

RIT Range: 179-191

Comparing three-digit numbers 2.NBT.A.4

Equal parts of circles and rectangles 2.G.A.3

Hundreds, tens, and ones 2.NBT.A.1 | 2.NBT.A.1b

Three-digit place value challenge 2.NBT.A.3

RIT Range: 192 - 203

<u>Fractions on the number line 1</u> 3.NF.A.2

Meaning of division 3.0A.A.2

Meaning of multiplication 3.0A.A.1

Properties of multiplication 1 3.0A.B.5

Rounding to the nearest ten or hundred 3.NBT.A.1

RIT Range: 192-202

Comparing fractions with the same numerator or denominator

3.NF.A.3 | 3.NF.A.3d

Comparing fractions with the same denominator

3.NF.A.3 | 3.NF.A.3d

Extend and Use Properties	Standards Alignment
RIT Range: 192-202	
Comparing fractions with the same numerator	3.NF.A.3   3.NF.A.3d
Visually comparing fractions 1	3.NF.A.3   3.NF.A.3d
Identifying unit fractions	3.G.A.2   3.NF.A.1
Equivalent fractions on the number line	3.NF.A.3   3.NF.A.3b
Equivalent fraction models	3.NF.A.3   3.NF.A.3b
Finding 1 on the number line	3.NF.A.2a   3.NF.A.2b   3.NF.A.3c
Unit fractions on the number line	3.NF.A.2a   3.NF.A.2b
Recognizing fractions 2	3.NF.A.1
Comparing fractions of different wholes	3.NF.A.3d
Identifying numerators and denominators	3.NF.A.1
Recognizing fractions 1	3.NF.A.1
That's not fair!	3.G.A.2   3.NF.A.1
Writing fractions as whole numbers	3.NF.A.3c
RIT Range: 203-212	
Adding fractions with 10 and 100 as denominators	4.NF.C.5
Comparing decimals and fractions	4.NF.C.7
Comparing fractions with different numerators and denominators	4.NF.A.2
Comparing fractions and mixed numbers	4.NF.A.2
Comparing decimals visually	4.NF.C.7
Decompose fractions with denominators of 100	4.NF.C.5
Decomposing fractions	4.NF.B.3b
Equivalent fractions and different wholes	4.NF.A.2
Equivalent fractions	4.NF.A.1
Equivalent fractions with denominators of 10 and 100	4.NF.C.5
Equivalent fractions with denominators of 10 and 100 intuition	4.NF.C.5
Ordering fractions	4.NF.A.2
<u>Place value</u>	4.NBT.A.2
Multiplying Fractions and Whole Numbers: Equivalent Expressions	4.NF.B.4a

Extend and Use Properties	Standards Alignment
RIT Range: 203-212	
Understanding place value	4.NBT.A.1
<u>Understanding whole number representations</u>	4.NBT.A.2
Equivalent fractions introduction	4.NF.A.1
Visually comparing fractions with unlike denominators	4.NF.A.2
RIT Range: 204 - 212	
Comparing decimals 1	4.NF.C.7
Composite numbers	4.OA.B.4
Converting decimals to fractions 1	4.NF.C.6
Fractions as division by 10 or 100	4.NF.C.6
Decimals on the number line 1	4.NF.C.6
Decimals on the number line 2	4.NF.C.6
Fractions as division by a multiple of 10	4.NF.C.6
Fractions cut and copy 1	4.NF.A.1
Prime numbers	4.OA.B.4
DIT Downey, 242, 240	
RIT Range: 213-219	5.NBT.A.3b
Comparing decimals 2	5.NBT.A.1
Comparing decimal place value  Coordinate plane word problems in the first quadrant	5.G.A.2
Graphing points	5.G.A.1   5.G.A.2
Multiplying and dividing decimals by powers of 10	5.NBT.A.2
Multiplying and dividing whole numbers by powers of 10	5.NBT.A.2
Ordering decimals	5.NBT.A.3b
Powers of ten	5.NBT.A.2
Regrouping decimals	5.NBT.A.1
Regrouping whole numbers	5.NBT.A.1
Money and decimal place value intuition	5.NBT.A.3
Understanding moving the decimal	5.NBT.A.2
Understanding fractions as division	5.NF.B.3
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Extend and Use Properties	Standards Alignment
RIT Range: 213-219	
Understanding fractions as division: word problems	5.NF.B.3
Writing and interpreting decimals	5.NBT.A.3a
RIT Range: 220-223	
	6.NS.C.7c
Finding absolute values	
Interpreting absolute value	6.NS.C.7   6.NS.C.7c   6.NS.C.7d
Comparing absolute values	6.NS.C.7   6.NS.C.7c
Comparing absolute values 2	6.NS.C.7   6.NS.C.7c
Coordinate plane problems in all four quadrants	6.NS.C.6   6.NS.C.8
<u>Decimals on the number line 3</u>	6.NS.C.6   6.NS.C.6c
Rational numbers on the number line	6.NS.C.6   6.NS.C.6c
Graphing points and naming quadrants	6.NS.C.6   6.NS.C.6b   6.NS.C.6c
Points on the coordinate plane	6.NS.C.6   6.NS.C.6c
Interpreting negative numbers	6.NS.C.5
Negative numbers on the number line	6.NS.C.6
Negative numbers on the number line without reference to zero	6.NS.C.6   6.NS.C.6c
Number opposites	6.NS.C.6   6.NS.C.6a
Number opposites 2	6.NS.C.6   6.NS.C.6a
Ordering negative numbers	6.NS.C.7   6.NS.C.7b
Ordering rational numbers	6.NS.C.7   6.NS.C.7b
Reflecting points on the coordinate plane	6.NS.C.6   6.NS.C.6b   6.NS.C.8
Distance between points on the coordinate plane	6.NS.C.6   6.NS.C.6b   6.NS.C.8
Comparing positive and negative numbers on the number line	6.NS.C.7   6.NS.C.7a
Writing numerical inequalities	6.NS.C.7   6.NS.C.7b
DIT Devices 220 220	
RIT Range: 228-230	0.110.4.0
Comparing irrational numbers with a calculator	8.NS.A.2
Comparing irrational numbers	8.NS.A.2
Converting 1-digit repeating decimals to fractions	8.NS.A.1
Converting multi-digit repeating decimals to fractions	8.NS.A.1
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Extend and Use Properties	Standards Alignment
RIT Range: 228-230	
Recognizing rational and irrational numbers	8.NS.A.1
Approximating square roots	8.NS.A.2
Writing fractions as repeating decimals	8.NS.A.1
RIT Range: > 231	
Adding and subtracting radicals	HSN-RN.A.2
Fractional exponents	HSN-RN.A.2
Fractional exponents 2	HSN-RN.A.2
Manipulating fractional exponents	HSN-RN.A.2
Simplifying square roots 2	HSN-RN.A.2
Simplifying expressions with exponents	HSN-RN.A.2
RIT Range: 231 - 234	
Converting decimals to fractions 2	8.NS.A.1
<u>Properties of exponents</u>	8.EE.A.1
Scientific notation intuition	8.EE.A.4
The Real and Complex Number Systems	
Perform Operations	Standards Alignment
RIT Range: < 160	
Addition word problems within 10	K.OA.A.2
Subtraction word problems within 10	K.OA.A.2
RIT Range: 161 - 178	
Addition and subtraction within 10	1.OA.D.8
RIT Range: 161-178	
Adding 1s or 10s (no regrouping)	1.NBT.C.4
Adding three numbers	1.OA.A.2
Addition within 20	1.OA.C.6

Perform Operations	Standards Alignment
RIT Range: 161-178	
Addition and subtraction word problems 1	1.OA.A.1
Addition and subtraction word problems 2	1.OA.A.1
Word problems with "more" and "fewer" 1	1.OA.A.1
Word problems with "more" and "fewer" 2	1.OA.A.1
Adding 1 or 10	1.NBT.C.4
Adding two-digit numbers (no regrouping)	1.NBT.C.4
Breaking apart two-digit addition problems	1.NBT.C.4
Regrouping: two-digit number plus one-digit number	1.NBT.C.4
RIT Range: 179-191	
Adding and subtracting within 1000 using a number line	2.NBT.B.7
Addition within 100	2.NBT.B.5
Addition and subtraction within 100 word problems 1	2.OA.A.1
Addition and subtraction within 100 word problems 2	2.OA.A.1
Word problems within 100 with "more" and "fewer" 1	2.OA.A.1
Word problems within 100 with "more" and "fewer" 2	2.OA.A.1
Adding and subtracting using a number line	2.NBT.B.7
Adding 10s and 100s (no regrouping)	2.NBT.B.7
Adding two- and three-digit numbers (no regrouping)	2.NBT.B.7
Breaking apart three-digit addition problems	2.NBT.B.7
Comparing lengths	2.OA.A.1
Counting money (U.S.)	2.MD.C.8   2.NBT.A.2
Find the missing number (addition and subtraction within 100)	2.OA.A.1
Length word problems	2.MD.B.5   2.OA.A.1
Adding two-digit numbers by making tens	2.NBT.B.5
Adding two-digit numbers by making tens 2	2.NBT.B.5
Regrouping: two-digit number minus one-digit number	2.NBT.A.4
Select strategies for adding within 100	2.NBT.B.7
Skip-counting by 100s	2.NBT.A.2

Perform Operations	Standards Alignment
RIT Range: 179-191	
Skip-counting by 10s	2.NBT.A.2
Skip-counting by 5s	2.NBT.A.2
Solving problems with picture graphs 1	2.OA.A.1
Subtracting 1s or 10s (no regrouping)	2.NBT.B.5
Subtraction within 20	2.NBT.B.5
Subtraction within 100	2.NBT.B.5
Subtracting 10s and 100s (no regrouping)	2.NBT.B.7
Subtracting two- and three-digit numbers (no regrouping)	2.NBT.B.7
Subtracting 1 or 10	2.NBT.B.5
Subtracting two-digit numbers (no regrouping)	2.NBT.B.5
Telling time without labels	2.MD.C.7
Telling time with a labeled clock	2.MD.C.7
RIT Range: 192 - 203	
Basic division	3.OA.A.4
1-digit division	3.OA.A.4
Multiplying 1-digit numbers	3.OA.A.4
RIT Range: 192-202	
Addition within 1000	3.NBT.A.2   4.NBT.B.4
Addition using groups of 10 and 100	3.NBT.A.2
Meaning of division	3.OA.A.2
Meaning of multiplication	3.OA.A.1
Arithmetic word problems with mass	3.MD.A.2
Multiply by tens	3.NBT.A.3
Multiply by tens word problems	3.NBT.A.3
Whole numbers on the number line	3.OA.C.7
Properties of multiplication	3.OA.B.5
Relate division to multiplication	3.OA.B.6
Relate division to multiplication word problems	3.OA.B.6
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Perform Operations	Standards Alignment
RIT Range: 192-202	
Rounding to the nearest ten or hundred	3.NBT.A.1
Subtraction within 1000	3.NBT.A.2   4.NBT.B.4
Telling time word problems	3.MD.A.1
Telling time word problems with the number line	3.MD.A.1
Two-step word problems with addition, subtraction, multiplication, and division	3.OA.D.8
Arithmetic word problems with volume	3.MD.A.2
RIT Range: 203-212	
Adding fractions with 10 and 100 as denominators	4.NF.C.5
Adding and subtracting mixed numbers with like denominators	4.NF.B.3c
Adding and subtracting fractions with like denominators word problems	4.NF.B.3d
Adding and subtracting mixed numbers withåÊlike denominators 2	4.NF.B.3c
Addition within 1000	3.NBT.A.2   4.NBT.B.4
Multiplication and division word problems	4.OA.A.2
Comparing with multiplication	4.OA.A.1
Composite numbers	4.OA.B.4
Rewriting decimals as fractions	4.NF.C.6
Rewriting fractions as decimals	4.NF.C.6
Decimal intuition with grids	4.NF.C.6
<u>Decimals in words</u>	4.NF.C.6
Decompose fractions with denominators of 100	4.NF.C.5
<u>Divisibility intuition</u>	4.OA.B.4
Multi-digit division without remainders	4.NBT.B.6
<u>Division with remainders</u>	4.NBT.B.6
Division using place value understanding	4.NBT.B.6
Equivalent fractions	4.NF.A.1
Equivalent fractions with denominators of 10 and 100	4.NF.C.5
Equivalent fractions with denominators of 10 and 100 intuition	4.NF.C.5
<u>Factor pairs</u>	4.OA.B.4

Perform Operations	Standards Alignment
RIT Range: 203-212	
Adding and subtracting fractions of pizzas, pies, and cakes	4.NF.B.3d
Fraction-decimal intuition	4.NF.C.6
Identifying factors and multiples	4.OA.B.4
Converting money word problems	4.MD.A.2
Time word problems	4.MD.A.2
Multi-digit division with visual models	4.NBT.B.6
Multiplication without carrying	4.NBT.B.5
Multiplication with carrying	4.NBT.B.5
Multiplying 2 digits by 2 digits	4.NBT.B.5
Multiplication using place value understanding	4.NBT.B.5
Comparing with multiplication word problems	4.OA.A.1
Multiplying 2 digits by 2 digits with area models	4.NBT.B.5
Multiplying 4 digits by 1 digit with visual models	4.NBT.B.5
Multiplying fractions and whole numbers intuition	4.NF.B.4
Multiplying fractions and whole numbers word problems	4.NF.B.4c
Multiplying unit fractions and whole numbers	4.NF.B.4a
Multi-step word problems with whole numbers	4.OA.A.3
<u>Prime numbers</u>	4.OA.B.4
Rounding whole numbers	4.NBT.A.3
Subtracting fractions with common denominators	4.NF.B.3a
Subtraction within 1000	3.NBT.A.2   4.NBT.B.4
Multiplying Fractions and Whole Numbers: Equivalent Expressions	4.NF.B.4
<u>Understanding place value</u>	4.NBT.A.1
Equivalent fractions introduction	4.NF.A.1
RIT Range: 204 - 212	
Decomposing fractions	4.NF.B.3b
RIT Range: 213-219	
Adding decimals 1	5.NBT.B.7
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Perform Operations	Standards Alignment
RIT Range: 213-219	
Adding decimals 0.5	5.NBT.B.7
Adding fractions with unlike denominators	5.NF.A.1
Adding and subtracting mixed numbers with unlike denominators	5.NF.A.1
Adding and subtracting fractions with unlike denominators word problems	5.NF.A.2
Comparing decimal place value	5.NBT.A.1
Dividing completely	5.NBT.B.7
Dividing decimals 1	5.NBT.B.7
Dividing decimals 2	5.NBT.B.7
Dividing decimals 3	5.NBT.B.7
Dividing whole numbers by unit fractions	5.NF.B.7   5.NF.B.7b
Dividing unit fractions by whole numbers	5.NF.B.7   5.NF.B.7a
Dividing unit fractions by whole numbers introduction	5.NF.B.7   5.NF.B.7a
Dividing whole numbers by unit fractions introduction	5.NF.B.7   5.NF.B.7b
<u>Division by 2 digits</u>	5.NBT.B.6
Division with fractions and whole numbers word problems	5.NF.B.7c
Fraction multiplication as scaling	5.NF.B.5b
Multi-digit multiplication	5.NBT.B.5
Multiplying decimals 1	5.NBT.B.7
Multiplying decimals 2	5.NBT.B.7
Multiplying fractions by whole numbers	5.NF.B.4a
Multiplying and dividing decimals by powers of 10	5.NBT.A.2
Multiplying and dividing whole numbers by powers of 10	5.NBT.A.2
Multiplying fractions by fractions word problems	5.NF.B.6
Powers of ten	5.NBT.A.2
Regrouping decimals	5.NBT.A.1
Regrouping whole numbers	5.NBT.A.1
Rounding decimals	5.NBT.A.4
Subtracting decimals	5.NBT.B.7
Subtracting decimals 0.5	5.NBT.B.7

Perform Operations	Standards Alignment
RIT Range: 213-219	
Subtracting fractions with unlike denominators	5.NF.A.1
Understanding moving the decimal	5.NBT.A.2
<u>Understanding fractions as division</u>	5.NF.B.3
<u>Understanding fractions as division: word problems</u>	5.NF.B.3
Visually understanding multiplying fractions and whole numbers	5.NF.B.4a
Understanding multiplying fractions by fractions	5.NF.B.4a
Using visuals to add and subtract fractions with unlike denominators	5.NF.A.1
RIT Range: 220-223	
Adding and subtracting decimals word problems	6.NS.B.3
Adding decimals 2	6.NS.B.3
Factoring numerical expressions using the distributive property	6.NS.B.4
Dividing decimals 4	6.NS.B.3
Dividing fractions	6.NS.A.1
Dividing fractions by fractions and whole numbers applications	6.NS.A.1
Dividing fractions word problems	6.NS.A.1
Multi-digit division	6.NS.B.2
GCF and LCM word problems	6.NS.B.4
Greatest common factor	6.NS.B.4
<u>Least common multiple</u>	6.NS.B.4
Multiplying decimals 3	6.NS.B.3
Subtracting decimals 2	6.NS.B.3
<u>Understanding dividing fractions by fractions</u>	6.NS.A.1
RIT Range: 224-227	
Absolute value to find distance	7.NS.A.1c
Adding and subtracting negative fractions	7.NS.A.1   7.NS.A.1d
Subtracting negative numbers intro	7.NS.A.1   7.NS.A.1c
Adding and subtracting negative fractions, decimals, and percents	7.NS.A.1d
Adding negative numbers intro	7.NS.A.1
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**Standards Alignment** 

### **The Real and Complex Number Systems**

**Perform Operations** 

· ·
7.NS.A.1b
7.NS.A.1
7.NS.A.2   7.NS.A.2d
7.NS.A.3
7.NS.A.1c
7.NS.A.2   7.NS.A.2d
7.NS.A.2b
7.NS.A.2b
7.NS.A.2
7.NS.A.2
7.NS.A.2
7.NS.A.2
7.NS.A.3
7.NS.A.1   7.NS.A.1c
7.NS.A.1   7.NS.A.1d
7.NS.A.1
7.NS.A.2b
7.NS.A.2
7.NS.A.2a
7.NS.A.1
7.NS.A.1
7.NS.A.1
7.NS.A.2
7.NS.A.2b
7.NS.A.2
7.NS.A.2c
7.NS.A.1b
7.NS.A.1
7.NS.A.1

Perform Operations Standards Alignment

RIT Range: > 231

Adding and subtracting complex numbers

Imaginary unit powers

HSN-CN.A.2

Measurement precision

HSN-Q.A.3

Multiplying complex numbers

HSN-CN.A.2

The imaginary unit and complex numbers

HSN-CN.A.1

Working with units algebraically

RIT Range: > 235

Adding and subtracting radicals

HSN-RN.A.2

### The Real and Complex Number Systems

Ratios and Proportional Relationships Standards Alignment

RIT Range: 203-212

Converting larger units to smaller units4.MD.A.1Converting money word problems4.MD.A.2Time word problems4.MD.A.2Multi-step word problems with whole numbers4.OA.A.3Unit sense4.MD.A.1

RIT Range: 213-219

Converting units word problems (metric)5.MD.A.1Converting units (metrics)5.MD.A.1Converting units (US customary)5.MD.A.1Converting units word problems (US customary)5.MD.A.1Division with fractions and whole numbers word problems5.NF.B.7c

RIT Range: 220-223

Converting between fractions and percents

6.RP.A.2 | 6.RP.A.3 | 6.RP.A.3b

6.RP.A.3c

Finding percents

6.RP.A.3 | 6.RP.A.3c

Ratios and Proportional Relationships Standards Alignment

RIT Range: 220-223

Percent word problems 6.RP.A.3 | 6.RP.A.3c

Basic rate problems 6.RP.A.2 | 6.RP.A.3 | 6.RP.A.3 |

Ratio word problems 6.RP.A.3

Basic ratios 6.RP.A.1

Basic ratios 6.RP.A.1

Solving ratio problems with tables 6.RP.A.3 | 6.RP.A.3a

RIT Range: 221 - 225

Units 6.RP.A.3 | 6.RP.A.3d

RIT Range: 224-227

<u>Identifying proportional relationships</u>
7.RP.A.2a

Identifying proportional relationships with graphs 7.RP.A.2a

Proportion word problems 7.RP.A.3

Discount, tax, and tip word problems 7.RP.A.3

Interpreting graphs of proportional relationships 7.RP.A.2d

Markup and commission word problems 7.RP.A.3

Solving proportions 7.RP.A.3

Rate problems with fractions 7.RP.A.1 | 7.RP.A.2b

Writing proportions 7.RP.A.3

Writing proportional equations 7.RP.A.2c