

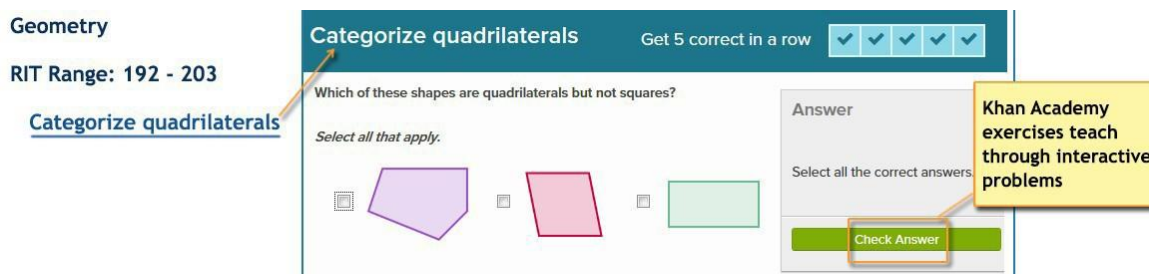
# MAP Growth Mathematics to Khan Academy

## Khan Academy Practice Exercises Correlated to RIT

### Common Core MAP Growth Math 6+

#### About this Document

This document correlates MAP® Growth™ test sub-goals and RIT ranges to Khan Academy® exercises. The Khan Academy 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 Growth RIT scores and the Khan Academy exercises was determined by using our 2020 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 Growth 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:
  - 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 Growth.
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 Growth data should be used as one of many data points for instructional decisions rather than as a placement guide.

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# MAP Growth Mathematics

## Khan Academy Practice Exercises Correlation

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### Common Core Math 6+

Operations and Algebraic Thinking	
Expressions and Equations	Pg. 4
Use Functions to Model Relationships	Pg. 14
The Real and Complex Number Systems	
Ratios and Proportional Relationships	Pg. 22
Perform Operations	Pg. 25
Extend and Use Properties	Pg. 35
Geometry	
Geometric Measurement and Relationships	Pg. 39
Congruence, Similarity, Right Triangles, & Trig	Pg. 46
Statistics and Probability	
Interpreting Categorical and Quantitative Data	Pg. 50
Using Sampling and Probability to Make Decisions	Pg. 53

## Operations and Algebraic Thinking

### Expressions and Equations

### Standards Alignment

RIT Range: 189-200

<a href="#">Relate division to multiplication word problems</a>	3.OA.A.3   3.OA.B.6
<a href="#">Find missing divisors and dividends (1-digit division)</a>	3.OA.A.4
<a href="#">Find missing factors (1-digit multiplication)</a>	3.OA.A.4
<a href="#">Letters and symbols in multiplication and division equations</a>	3.OA.A.4
<a href="#">Associative property of multiplication</a>	3.OA.B.5
<a href="#">Commutative property of multiplication</a>	3.OA.B.5
<a href="#">Distributive property of multiplication</a>	3.OA.B.5
<a href="#">Represent 2-step word problems with equations</a>	3.OA.D.8

RIT Range: 201-210

<a href="#">Multi-step word problems with whole numbers</a>	4.OA.A.3
<a href="#">Represent multi-step word problems using equations</a>	4.OA.A.3

RIT Range: 211-217

<a href="#">Powers of ten</a>	5.NBT.A.2
<a href="#">Evaluate expressions with parentheses</a>	5.OA.A.1
<a href="#">Create expressions with parentheses</a>	5.OA.A.2
<a href="#">Translate expressions with parentheses</a>	5.OA.A.2

RIT Range: 218-221

<a href="#">Exponents</a>	6.EE.A.1
<a href="#">Exponents (basic)</a>	6.EE.A.1
<a href="#">Powers of fractions</a>	6.EE.A.1
<a href="#">Variable expressions with exponents</a>	6.EE.A.1
<a href="#">Order of operations challenge</a>	6.EE.A.1   6.EE.A.2
<a href="#">Evaluating expressions with multiple variables</a>	6.EE.A.2
<a href="#">Evaluating expressions with multiple variables: fractions &amp; decimals</a>	6.EE.A.2
<a href="#">Evaluating expressions with one variable</a>	6.EE.A.2

# Operations and Algebraic Thinking

## Expressions and Equations

## Standards Alignment

RIT Range: 218-221

<a href="#">Evaluating expressions with variables word problems</a>	6.EE.A.2
<a href="#">Expression value intuition</a>	6.EE.A.2
<a href="#">Order of operations</a>	6.EE.A.2
<a href="#">Parts of algebraic expressions</a>	6.EE.A.2
<a href="#">Writing basic expressions with variables</a>	6.EE.A.2
<a href="#">Writing basic expressions word problems</a>	6.EE.A.2
<a href="#">Writing expressions with variables</a>	6.EE.A.2
<a href="#">Writing expressions word problems</a>	6.EE.A.2   7.EE.A.2
<a href="#">Combining like terms</a>	6.EE.A.3
<a href="#">Create equivalent expressions by factoring</a>	6.EE.A.3
<a href="#">Distributive property with variables</a>	6.EE.A.3
<a href="#">Equivalent expressions</a>	6.EE.A.3
<a href="#">Factor with distributive property (variables)</a>	6.EE.A.3
<a href="#">Factor with the distributive property (no variables)</a>	6.EE.A.3
<a href="#">Testing solutions to inequalities</a>	6.EE.B.5
<a href="#">Testing solutions to inequalities (basic)</a>	6.EE.B.5
<a href="#">Identify equations from visual models (hanger diagrams)</a>	6.EE.B.5   6.EE.B.7
<a href="#">Identify equations from visual models (tape diagrams)</a>	6.EE.B.5   6.EE.B.7
<a href="#">Solve equations from visual models</a>	6.EE.B.5   6.EE.B.7
<a href="#">Testing solutions to equations</a>	6.EE.B.5   6.EE.B.7
<a href="#">Model with one-step equations</a>	6.EE.B.6   6.EE.B.7
<a href="#">Model with one-step equations and solve</a>	6.EE.B.6   6.EE.B.7
<a href="#">Translate one-step equations and solve</a>	6.EE.B.6   6.EE.B.7
<a href="#">Find the mistake in one-step equations</a>	6.EE.B.7
<a href="#">One-step addition &amp; subtraction equations</a>	6.EE.B.7
<a href="#">One-step addition &amp; subtraction equations: fractions &amp; decimals</a>	6.EE.B.7

## Operations and Algebraic Thinking

### Expressions and Equations

### Standards Alignment

RIT Range: 218-221

<a href="#">One-step multiplication &amp; division equations</a>	6.EE.B.7
<a href="#">One-step multiplication &amp; division equations: fractions &amp; decimals</a>	6.EE.B.7
<a href="#">Inequalities word problems</a>	6.EE.B.7   6.EE.B.8
<a href="#">Graphing basic inequalities</a>	6.EE.B.8
<a href="#">Inequality from graph</a>	6.EE.B.8   7.EE.B.4
<a href="#">Plotting inequalities</a>	6.EE.B.8   7.EE.B.4
<a href="#">Independent versus dependent variables</a>	6.EE.C.9
<a href="#">Match equations to coordinates on a line</a>	6.EE.C.9
<a href="#">Relationships between quantities in equations and graphs</a>	6.EE.C.9
<a href="#">Tables from equations with 2 variables</a>	6.EE.C.9

RIT Range: 222-226

<a href="#">Writing expressions word problems</a>	6.EE.A.2   7.EE.A.2
<a href="#">Inequality from graph</a>	6.EE.B.8   7.EE.B.4
<a href="#">Plotting inequalities</a>	6.EE.B.8   7.EE.B.4
<a href="#">Combining like terms with negative coefficients</a>	7.EE.A.1
<a href="#">Combining like terms with negative coefficients &amp; distribution</a>	7.EE.A.1
<a href="#">Combining like terms with rational coefficients</a>	7.EE.A.1
<a href="#">Distributive property with variables (negative numbers)</a>	7.EE.A.1
<a href="#">Equivalent expressions: negative numbers &amp; distribution</a>	7.EE.A.1
<a href="#">Interpreting linear expressions</a>	7.EE.A.2
<a href="#">Rational number word problems</a>	7.EE.B.3
<a href="#">Find the mistake: two-step equations</a>	7.EE.B.4
<a href="#">Interpret two-step equation word problems</a>	7.EE.B.4
<a href="#">One-step inequalities</a>	7.EE.B.4
<a href="#">Two-step equations</a>	7.EE.B.4

## Operations and Algebraic Thinking

### Expressions and Equations

### Standards Alignment

RIT Range: 222-226

<a href="#"><u>Two-step equations with decimals and fractions</u></a>	7.EE.B.4
<a href="#"><u>Two-step equations word problems</u></a>	7.EE.B.4
<a href="#"><u>Two-step inequalities</u></a>	7.EE.B.4
<a href="#"><u>Two-step inequality word problems</u></a>	7.EE.B.4

RIT Range: 227-228

<a href="#"><u>Divide powers</u></a>	8.EE.A.1
<a href="#"><u>Exponents with integer bases</u></a>	8.EE.A.1
<a href="#"><u>Exponents with negative fractional bases</u></a>	8.EE.A.1
<a href="#"><u>Multiply &amp; divide powers (integer exponents)</u></a>	8.EE.A.1
<a href="#"><u>Multiply powers</u></a>	8.EE.A.1
<a href="#"><u>Negative exponents</u></a>	8.EE.A.1
<a href="#"><u>Powers of powers</u></a>	8.EE.A.1
<a href="#"><u>Powers of products &amp; quotients</u></a>	8.EE.A.1
<a href="#"><u>Powers of products &amp; quotients (integer exponents)</u></a>	8.EE.A.1
<a href="#"><u>Powers of products &amp; quotients (structured practice)</u></a>	8.EE.A.1
<a href="#"><u>Properties of exponents challenge (integer exponents)</u></a>	8.EE.A.1
<a href="#"><u>Cube roots</u></a>	8.EE.A.2
<a href="#"><u>Equations with square roots &amp; cube roots</u></a>	8.EE.A.2
<a href="#"><u>Equations with square roots: decimals &amp; fractions</u></a>	8.EE.A.2
<a href="#"><u>Roots of decimals &amp; fractions</u></a>	8.EE.A.2
<a href="#"><u>Square and cube challenge</u></a>	8.EE.A.2
<a href="#"><u>Square roots</u></a>	8.EE.A.2
<a href="#"><u>Scientific notation</u></a>	8.EE.A.3
<a href="#"><u>Approximating with powers of 10</u></a>	8.EE.A.3   8.EE.A.4
<a href="#"><u>Multiplication and division with powers of ten</u></a>	8.EE.A.3   8.EE.A.4

# Operations and Algebraic Thinking

## Expressions and Equations

## Standards Alignment

RIT Range: 227-228

<a href="#">Adding &amp; subtracting in scientific notation</a>	8.EE.A.4
<a href="#">Multiplying &amp; dividing in scientific notation</a>	8.EE.A.4
<a href="#">Scientific notation word problems</a>	8.EE.A.4
<a href="#">Graphing proportional relationships</a>	8.EE.B.5
<a href="#">Rates &amp; proportional relationships</a>	8.EE.B.5
<a href="#">Equations with parentheses</a>	8.EE.C.7
<a href="#">Equations with parentheses: decimals &amp; fractions</a>	8.EE.C.7
<a href="#">Equations with variables on both sides</a>	8.EE.C.7
<a href="#">Equations with variables on both sides: decimals &amp; fractions</a>	8.EE.C.7
<a href="#">Number of solutions to equations</a>	8.EE.C.7
<a href="#">Number of solutions to equations challenge</a>	8.EE.C.7
<a href="#">Sums of consecutive integers</a>	8.EE.C.7
<a href="#">Age word problems</a>	8.EE.C.8   HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6
<a href="#">Systems of equations word problems (1)</a>	8.EE.C.8   HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6
<a href="#">Systems of equations word problems (2)</a>	8.EE.C.8   HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6
<a href="#">Equivalent systems of equations</a>	8.EE.C.8   HSA-REI.C.5
<a href="#">Systems of equations with elimination</a>	8.EE.C.8   HSA-REI.C.6
<a href="#">Systems of equations with elimination challenge</a>	8.EE.C.8   HSA-REI.C.6
<a href="#">Systems of equations with substitution</a>	8.EE.C.8   HSA-REI.C.6
<a href="#">Solutions of systems of equations</a>	8.EE.C.8   HSA-REI.C.6   HSA-REI.D.11
<a href="#">Systems of equations with graphing</a>	8.EE.C.8   HSA-REI.C.6   HSA-REI.D.11
<a href="#">Linear systems of equations capstone</a>	8.EE.C.8   HSA-REI.C.6   HSA-SSE.B.3
<a href="#">Number of solutions to a system of equations algebraically</a>	8.EE.C.8   HSA-REI.D.10   HSA-REI.D.11
<a href="#">Number of solutions to a system of equations graphically</a>	8.EE.C.8   HSA-REI.D.10   HSA-REI.D.11



# Operations and Algebraic Thinking

## Expressions and Equations

## Standards Alignment

RIT Range: 229-242

<a href="#">Age word problems</a>	8.EE.C.8   HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6
<a href="#">Systems of equations word problems (1)</a>	8.EE.C.8   HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6
<a href="#">Systems of equations word problems (2)</a>	8.EE.C.8   HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6
<a href="#">Equivalent systems of equations</a>	8.EE.C.8   HSA-REI.C.5
<a href="#">Systems of equations with elimination</a>	8.EE.C.8   HSA-REI.C.6
<a href="#">Systems of equations with elimination challenge</a>	8.EE.C.8   HSA-REI.C.6
<a href="#">Systems of equations with substitution</a>	8.EE.C.8   HSA-REI.C.6
<a href="#">Solutions of systems of equations</a>	8.EE.C.8   HSA-REI.C.6   HSA-REI.D.11
<a href="#">Systems of equations with graphing</a>	8.EE.C.8   HSA-REI.C.6   HSA-REI.D.11
<a href="#">Linear systems of equations capstone</a>	8.EE.C.8   HSA-REI.C.6   HSA-SSE.B.3
<a href="#">Number of solutions to a system of equations algebraically</a>	8.EE.C.8   HSA-REI.D.10   HSA-REI.D.11
<a href="#">Number of solutions to a system of equations graphically</a>	8.EE.C.8   HSA-REI.D.10   HSA-REI.D.11
<a href="#">Add &amp; subtract polynomials</a>	HSA-APR.A.1
<a href="#">Add &amp; subtract polynomials: find the error</a>	HSA-APR.A.1
<a href="#">Add &amp; subtract polynomials: two variables (intro)</a>	HSA-APR.A.1
<a href="#">Add polynomials (intro)</a>	HSA-APR.A.1
<a href="#">Multiply binomials</a>	HSA-APR.A.1
<a href="#">Multiply binomials intro</a>	HSA-APR.A.1
<a href="#">Multiply monomials intro</a>	HSA-APR.A.1
<a href="#">Special products of binomials</a>	HSA-APR.A.1
<a href="#">Special products of binomials intro</a>	HSA-APR.A.1
<a href="#">Subtract polynomials (intro)</a>	HSA-APR.A.1
<a href="#">Multiply monomials</a>	HSA-APR.A.1   HSA-SSE.A.1
<a href="#">Divide polynomials with remainders</a>	HSA-APR.D.6
<a href="#">Divide polynomials with remainders: binomial divisors</a>	HSA-APR.D.6

# Operations and Algebraic Thinking

## Expressions and Equations

## Standards Alignment

RIT Range: 229-242

<a href="#">Divide polynomials with remainders: monomial divisors</a>	HSA-APR.D.6
<a href="#">Equations &amp; inequalities word problems</a>	HSA-CED.A.1
<a href="#">Multiple units word problems</a>	HSA-CED.A.1
<a href="#">Construct exponential models</a>	HSA-CED.A.2
<a href="#">Graphing linear functions word problems</a>	HSA-CED.A.2
<a href="#">Linear models word problems</a>	HSA-CED.A.2
<a href="#">Systems of equations word problems capstone</a>	HSA-CED.A.2   HSA-CED.A.3   HSA-REI.C.6
<a href="#">Constraint solutions of systems of inequalities</a>	HSA-CED.A.3
<a href="#">Constraint solutions of two-variable inequalities</a>	HSA-CED.A.3
<a href="#">Solutions of inequalities: algebraic</a>	HSA-CED.A.3
<a href="#">Solutions of inequalities: graphical</a>	HSA-CED.A.3
<a href="#">Solutions of systems of inequalities</a>	HSA-CED.A.3
<a href="#">Systems of inequalities word problems</a>	HSA-CED.A.3
<a href="#">Two-variable inequalities word problems</a>	HSA-CED.A.3
<a href="#">Manipulate formulas</a>	HSA-CED.A.4
<a href="#">Compound inequalities</a>	HSA-REI.B.3
<a href="#">Linear equations with unknown coefficients</a>	HSA-REI.B.3
<a href="#">Multi-step linear inequalities</a>	HSA-REI.B.3
<a href="#">Number of solutions of quadratic equations</a>	HSA-REI.B.4
<a href="#">Quadratic formula</a>	HSA-REI.B.4
<a href="#">Quadratics by taking square roots</a>	HSA-REI.B.4
<a href="#">Quadratics by taking square roots: strategy</a>	HSA-REI.B.4
<a href="#">Solve equations using structure</a>	HSA-REI.B.4   HSA-SSE.A.2   HSA-SSE.B.3
<a href="#">Completing the square</a>	HSA-REI.B.4   HSA-SSE.B.3
<a href="#">Completing the square (intermediate)</a>	HSA-REI.B.4   HSA-SSE.B.3

# Operations and Algebraic Thinking

## Expressions and Equations

## Standards Alignment

RIT Range: 229-242

<a href="#">Completing the square (intro)</a>	HSA-REI.B.4   HSA-SSE.B.3
<a href="#">Quadratic word problems (standard form)</a>	HSA-REI.B.4   HSA-SSE.B.3
<a href="#">Quadratics by factoring</a>	HSA-REI.B.4   HSA-SSE.B.3
<a href="#">Quadratics by factoring (intro)</a>	HSA-REI.B.4   HSA-SSE.B.3
<a href="#">Complete solutions to 2-variable equations</a>	HSA-REI.D.10
<a href="#">Solutions to 2-variable equations</a>	HSA-REI.D.10
<a href="#">Interpret equations graphically</a>	HSA-REI.D.11
<a href="#">Graphs of inequalities</a>	HSA-REI.D.12
<a href="#">Systems of inequalities graphs</a>	HSA-REI.D.12
<a href="#">Two-variable inequalities from their graphs</a>	HSA-REI.D.12
<a href="#">Analyzing structure with linear inequalities</a>	HSA-SSE.A.1   HSA-SSE.B.3
<a href="#">Interpret change in exponential models: changing units</a>	HSA-SSE.A.1   HSA-SSE.B.3
<a href="#">Interpret change in exponential models: with manipulation</a>	HSA-SSE.A.1   HSA-SSE.B.3
<a href="#">Difference of squares</a>	HSA-SSE.A.2
<a href="#">Evaluate expressions using structure</a>	HSA-SSE.A.2
<a href="#">Manipulate expressions using structure</a>	HSA-SSE.A.2
<a href="#">Difference of squares intro</a>	HSA-SSE.A.2   HSA-SSE.B.3
<a href="#">Factor monomials</a>	HSA-SSE.A.2   HSA-SSE.B.3
<a href="#">Perfect squares</a>	HSA-SSE.A.2   HSA-SSE.B.3
<a href="#">Convert linear equations to standard form</a>	HSA-SSE.B.3
<a href="#">Factor quadratics by grouping</a>	HSA-SSE.B.3
<a href="#">Factoring quadratics intro</a>	HSA-SSE.B.3
<a href="#">Features of quadratic functions</a>	HSA-SSE.B.3
<a href="#">Features of quadratic functions: strategy</a>	HSA-SSE.B.3
<a href="#">Interpret change in exponential models</a>	HSA-SSE.B.3
<a href="#">Interpret time in exponential models</a>	HSA-SSE.B.3

## Operations and Algebraic Thinking

### Expressions and Equations

### Standards Alignment

RIT Range: 229-242

[Rewrite exponential expressions](#)

HSA-SSE.B.3

[Slope from equation](#)

HSA-SSE.B.3

RIT Range: 243-252

[Add & subtract polynomials: two variables](#)

HSA-APR.A.1

[Multiply binomials by polynomials](#)

HSA-APR.A.1

[Multiply monomials by polynomials](#)

HSA-APR.A.1

[Multiply monomials by polynomials challenge](#)

HSA-APR.A.1

[Multiply monomials by polynomials: area model](#)

HSA-APR.A.1

[Multiply monomials](#)

HSA-APR.A.1 | HSA-SSE.A.1

[Use the Polynomial Remainder Theorem](#)

HSA-APR.B.2

[Positive & negative intervals of polynomials](#)

HSA-APR.B.3

[Find zeros of polynomials](#)

HSA-APR.B.3 | HSA-SSE.A.2 | HSA-SSE.B.3

[Zeros of polynomials & their graphs](#)

HSA-APR.B.3 | HSA-SSE.A.2 | HSA-SSE.B.3

[Prove polynomial identities](#)

HSA-APR.C.4

[Simplify rational expressions \(advanced\)](#)

HSA-APR.D.6

[Simplify rational expressions: common binomial factors](#)

HSA-APR.D.6

[Simplify rational expressions: common monomial factors](#)

HSA-APR.D.6

[Equations with one rational expression](#)

HSA-REI.A.2

[Equations with one rational expression \(advanced\)](#)

HSA-REI.A.2

[Equations with two rational expressions](#)

HSA-REI.A.2

[Extraneous solutions of radical equations](#)

HSA-REI.A.2

[Solve square-root equations](#)

HSA-REI.A.2

[Solve square-root equations \(basic\)](#)

HSA-REI.A.2

[Solve quadratic equations: complex solutions](#)

HSA-REI.B.4 | HSN-CN.C.7

[Solve equations graphically](#)

HSA-REI.D.11

## Operations and Algebraic Thinking

### Expressions and Equations

### Standards Alignment

RIT Range: 243-252

[Factor polynomials: common factor](#)

HSA-SSE.A.1 | HSA-SSE.A.2 | HSA-SSE.B.3

[Factoring polynomials challenge](#)

HSA-SSE.A.2

[Factor polynomials: quadratic methods](#)

HSA-SSE.A.2 | HSA-SSE.B.3

[Factor polynomials: quadratic methods \(challenge\)](#)

HSA-SSE.A.2 | HSA-SSE.B.3

[Factor polynomials: special product forms](#)

HSA-SSE.A.2 | HSA-SSE.B.3

[Equivalent forms of exponential expressions](#)

HSA-SSE.B.3

[Finite geometric series](#)

HSA-SSE.B.4

[Finite geometric series in sigma notation](#)

HSA-SSE.B.4

[Finite geometric series word problems](#)

HSA-SSE.B.4

## Operations and Algebraic Thinking

### Use Functions to Model Relationships

### Standards Alignment

RIT Range: 189-200

[Math patterns 1](#)

3.OA.D.9

[Patterns with even and odd](#)

3.OA.D.9

RIT Range: 201-210

[Math patterns 2](#)

4.OA.C.5

RIT Range: 211-217

[Coordinate plane word problems \(quadrant 1\)](#)

5.G.A.2

[Graph points](#)

5.G.A.2

[Identify coordinates](#)

5.G.A.2

[Identify points](#)

5.G.A.2

[Graphs of rules that relate 2 variables](#)

5.OA.B.3

[Identify points on a line](#)

5.OA.B.3

[Relationships between 2 patterns](#)

5.OA.B.3

[Tables from rules that relate 2 variables](#)

5.OA.B.3

[Write rules that relate 2 variables](#)

5.OA.B.3

RIT Range: 227-228

[Complete solutions to 2-variable equations](#)

8.F.A.1

[Slope-intercept equation from graph](#)

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

[Slope-intercept from two points](#)

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

[Graph from slope-intercept form](#)

8.F.A.1 | 8.F.A.3 | HSF-IF.C.7

[Linear equations in any form](#)

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

[Function rules from equations \(1\)](#)

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

[Function rules from equations \(2\)](#)

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

[Recognize functions from graphs](#)

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

[Recognize functions from tables](#)

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

[Evaluate function expressions](#)

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

# Operations and Algebraic Thinking

## Use Functions to Model Relationships

## Standards Alignment

RIT Range: 227-228

<a href="#">Evaluate functions from their graph (1)</a>	8.F.A.1   HSF-IF.A.1   HSF-IF.A.2
<a href="#">Evaluate functions from their graph (2)</a>	8.F.A.1   HSF-IF.A.1   HSF-IF.A.2
<a href="#">Function inputs &amp; outputs: equation</a>	8.F.A.1   HSF-IF.A.1   HSF-IF.A.2
<a href="#">Evaluate functions (1)</a>	8.F.A.1   HSF-IF.A.2
<a href="#">Evaluate functions (2)</a>	8.F.A.1   HSF-IF.A.2
<a href="#">Function notation word problems</a>	8.F.A.1   HSF-IF.A.2
<a href="#">Determine the domain of functions</a>	8.F.A.1   HSF-IF.B.5
<a href="#">Domain and range from graph</a>	8.F.A.1   HSF-IF.B.5
<a href="#">Function domain word problems</a>	8.F.A.1   HSF-IF.B.5
<a href="#">Graph from linear standard form</a>	8.F.A.1   HSF-IF.C.7
<a href="#">Intercepts from a graph</a>	8.F.A.1   HSF-IF.C.7
<a href="#">Intercepts from a table</a>	8.F.A.1   HSF-IF.C.7
<a href="#">Linear equations word problems (1)</a>	8.F.A.1   HSF-LE.B.5
<a href="#">Linear equations word problems (2)</a>	8.F.A.1   HSF-LE.B.5
<a href="#">Compare linear functions (1)</a>	8.F.A.2   HSF-IF.C.9
<a href="#">Compare linear functions (2)</a>	8.F.A.2   HSF-IF.C.9
<a href="#">Intercepts from an equation</a>	8.F.A.3
<a href="#">Linear &amp; nonlinear functions</a>	8.F.A.3
<a href="#">Slope from two points</a>	8.F.B.4
<a href="#">Slope-intercept intro</a>	8.F.B.4   HSF-IF.C.7   HSF-LE.A.2
<a href="#">Slope from equation</a>	8.F.B.4   HSF-IF.C.8
<a href="#">Slope from graph</a>	8.F.B.4   HSF-LE.A.2
<a href="#">Interpreting graphs of functions</a>	8.F.B.5
<a href="#">Relative maxima and minima</a>	8.F.B.5   HSF-IF.C.7

# Operations and Algebraic Thinking

## Use Functions to Model Relationships

## Standards Alignment

RIT Range: 229-242

<a href="#">Slope-intercept equation from graph</a>	8.F.A.1   8.F.A.3   8.F.B.4   HSF-LE.A.2
<a href="#">Slope-intercept from two points</a>	8.F.A.1   8.F.A.3   8.F.B.4   HSF-LE.A.2
<a href="#">Graph from slope-intercept form</a>	8.F.A.1   8.F.A.3   HSF-IF.C.7
<a href="#">Linear equations in any form</a>	8.F.A.1   8.F.A.3   HSF-LE.A.2
<a href="#">Function rules from equations (1)</a>	8.F.A.1   HSF-IF.A.1
<a href="#">Function rules from equations (2)</a>	8.F.A.1   HSF-IF.A.1
<a href="#">Recognize functions from graphs</a>	8.F.A.1   HSF-IF.A.1
<a href="#">Recognize functions from tables</a>	8.F.A.1   HSF-IF.A.1
<a href="#">Evaluate function expressions</a>	8.F.A.1   HSF-IF.A.1   HSF-IF.A.2
<a href="#">Evaluate functions from their graph (1)</a>	8.F.A.1   HSF-IF.A.1   HSF-IF.A.2
<a href="#">Evaluate functions from their graph (2)</a>	8.F.A.1   HSF-IF.A.1   HSF-IF.A.2
<a href="#">Function inputs &amp; outputs: equation</a>	8.F.A.1   HSF-IF.A.1   HSF-IF.A.2
<a href="#">Evaluate functions (1)</a>	8.F.A.1   HSF-IF.A.2
<a href="#">Evaluate functions (2)</a>	8.F.A.1   HSF-IF.A.2
<a href="#">Function notation word problems</a>	8.F.A.1   HSF-IF.A.2
<a href="#">Determine the domain of functions</a>	8.F.A.1   HSF-IF.B.5
<a href="#">Domain and range from graph</a>	8.F.A.1   HSF-IF.B.5
<a href="#">Function domain word problems</a>	8.F.A.1   HSF-IF.B.5
<a href="#">Graph from linear standard form</a>	8.F.A.1   HSF-IF.C.7
<a href="#">Intercepts from a graph</a>	8.F.A.1   HSF-IF.C.7
<a href="#">Intercepts from a table</a>	8.F.A.1   HSF-IF.C.7
<a href="#">Linear equations word problems (1)</a>	8.F.A.1   HSF-LE.B.5
<a href="#">Linear equations word problems (2)</a>	8.F.A.1   HSF-LE.B.5
<a href="#">Compare linear functions (1)</a>	8.F.A.2   HSF-IF.C.9
<a href="#">Compare linear functions (2)</a>	8.F.A.2   HSF-IF.C.9
<a href="#">Slope-intercept intro</a>	8.F.B.4   HSF-IF.C.7   HSF-LE.A.2



# Operations and Algebraic Thinking

## Use Functions to Model Relationships

RIT Range: 229-242

## Standards Alignment

<a href="#">Slope from equation</a>	8.F.B.4   HSF-IF.C.8
<a href="#">Slope from graph</a>	8.F.B.4   HSF-LE.A.2
<a href="#">Sequences word problems</a>	HSF-BF.A.1   HSF-BF.A.2   HSF-LE.A.1   HSF-LE.A.2
<a href="#">Linear models word problems</a>	HSF-BF.A.1   HSF-IF.B.4   HSF-LE.A.2   HSF-LE.B.5
<a href="#">Construct exponential models</a>	HSF-BF.A.1   HSF-LE.A.2
<a href="#">Writing linear functions word problems (1)</a>	HSF-BF.A.1   HSF-LE.A.2
<a href="#">Writing linear functions word problems (2)</a>	HSF-BF.A.1   HSF-LE.A.2
<a href="#">Converting recursive &amp; explicit forms of arithmetic sequences</a>	HSF-BF.A.2
<a href="#">Converting recursive &amp; explicit forms of geometric sequences</a>	HSF-BF.A.2
<a href="#">Explicit formulas for arithmetic sequences</a>	HSF-BF.A.2   HSF-LE.A.2
<a href="#">Explicit formulas for geometric sequences</a>	HSF-BF.A.2   HSF-LE.A.2
<a href="#">Recursive formulas for arithmetic sequences</a>	HSF-BF.A.2   HSF-LE.A.2
<a href="#">Recursive formulas for geometric sequences</a>	HSF-BF.A.2   HSF-LE.A.2
<a href="#">Graphs of exponential functions</a>	HSF-BF.B.3   HSF-IF.C.7
<a href="#">Domain of advanced functions</a>	HSF-IF.A.1
<a href="#">Range of quadratic functions</a>	HSF-IF.A.1
<a href="#">Function inputs &amp; outputs: graph</a>	HSF-IF.A.1   HSF-IF.A.2
<a href="#">Evaluate sequences in recursive form</a>	HSF-IF.A.2
<a href="#">Use arithmetic sequence formulas</a>	HSF-IF.A.2
<a href="#">Use geometric sequence formulas</a>	HSF-IF.A.2
<a href="#">Linear equations word problems: graphs</a>	HSF-IF.B.4
<a href="#">Linear equations word problems: tables</a>	HSF-IF.B.4
<a href="#">Quadratic word problems (standard form)</a>	HSF-IF.B.4   HSF-IF.C.8
<a href="#">Comparing linear functions word problems</a>	HSF-IF.B.4   HSF-IF.C.9   HSF-LE.B.5
<a href="#">Graph parabolas in all forms</a>	HSF-IF.C.7

## Operations and Algebraic Thinking

### Use Functions to Model Relationships

### Standards Alignment

RIT Range: 229-242

<a href="#">Graph quadratics in factored form</a>	HSF-IF.C.7
<a href="#">Graph quadratics in standard form</a>	HSF-IF.C.7
<a href="#">Graph quadratics in vertex form</a>	HSF-IF.C.7
<a href="#">Graphing exponential growth &amp; decay</a>	HSF-IF.C.7
<a href="#">Graphing linear functions word problems</a>	HSF-IF.C.7
<a href="#">Increasing and decreasing intervals</a>	HSF-IF.C.7
<a href="#">Positive and negative intervals</a>	HSF-IF.C.7
<a href="#">Horizontal &amp; vertical lines</a>	HSF-IF.C.7   HSF-LE.A.2
<a href="#">Completing the square</a>	HSF-IF.C.8
<a href="#">Completing the square (intermediate)</a>	HSF-IF.C.8
<a href="#">Completing the square (intro)</a>	HSF-IF.C.8
<a href="#">Convert linear equations to standard form</a>	HSF-IF.C.8
<a href="#">Difference of squares</a>	HSF-IF.C.8
<a href="#">Difference of squares intro</a>	HSF-IF.C.8
<a href="#">Factor monomials</a>	HSF-IF.C.8
<a href="#">Factor quadratics by grouping</a>	HSF-IF.C.8
<a href="#">Factoring quadratics intro</a>	HSF-IF.C.8
<a href="#">Features of quadratic functions</a>	HSF-IF.C.8
<a href="#">Features of quadratic functions: strategy</a>	HSF-IF.C.8
<a href="#">Perfect squares</a>	HSF-IF.C.8
<a href="#">Quadratics by factoring</a>	HSF-IF.C.8
<a href="#">Quadratics by factoring (intro)</a>	HSF-IF.C.8
<a href="#">Rewrite exponential expressions</a>	HSF-IF.C.8
<a href="#">Solve equations using structure</a>	HSF-IF.C.8
<a href="#">Compare features of functions</a>	HSF-IF.C.8   HSF-IF.C.9
<a href="#">Interpret change in exponential models</a>	HSF-IF.C.8   HSF-LE.B.5

## Operations and Algebraic Thinking

### Use Functions to Model Relationships

### Standards Alignment

RIT Range: 229-242

<a href="#">Interpret change in exponential models: changing units</a>	HSF-IF.C.8   HSF-LE.B.5
<a href="#">Interpret change in exponential models: with manipulation</a>	HSF-IF.C.8   HSF-LE.B.5
<a href="#">Interpret time in exponential models</a>	HSF-IF.C.8   HSF-LE.B.5
<a href="#">Compare quadratic functions</a>	HSF-IF.C.9
<a href="#">Exponential vs. linear models</a>	HSF-LE.A.1
<a href="#">Linear vs. exponential growth: from data</a>	HSF-LE.A.1
<a href="#">Exponential functions from tables &amp; graphs</a>	HSF-LE.A.2
<a href="#">Point-slope form</a>	HSF-LE.A.2
<a href="#">Exponential vs. linear growth over time</a>	HSF-LE.A.3

RIT Range: 243-252

<a href="#">Relative maxima and minima</a>	8.F.B.5   HSF-IF.C.7
<a href="#">Model with function combination</a>	HSF-BF.A.1
<a href="#">Modeling with sinusoidal functions</a>	HSF-BF.A.1   HSF-TF.B.5
<a href="#">Even &amp; odd functions</a>	HSF-BF.B.3
<a href="#">Even &amp; odd polynomials</a>	HSF-BF.B.3
<a href="#">Shift functions</a>	HSF-BF.B.3
<a href="#">Transforming functions</a>	HSF-BF.B.3
<a href="#">Graph sinusoidal functions</a>	HSF-BF.B.3   HSF-IF.C.7
<a href="#">Graphs of logarithmic functions</a>	HSF-BF.B.3   HSF-IF.C.7
<a href="#">Radical functions &amp; their graphs</a>	HSF-BF.B.3   HSF-IF.C.7
<a href="#">Construct sinusoidal functions</a>	HSF-BF.B.3   HSF-TF.B.5
<a href="#">Domain of advanced piecewise functions</a>	HSF-IF.A.1
<a href="#">Evaluate piecewise functions</a>	HSF-IF.A.2   HSF-IF.C.7
<a href="#">Evaluate step functions</a>	HSF-IF.A.2   HSF-IF.C.7
<a href="#">End behavior of algebraic models</a>	HSF-IF.B.4

# Operations and Algebraic Thinking

## Use Functions to Model Relationships

## Standards Alignment

RIT Range: 243-252

<a href="#">Graph interpretation word problems</a>	HSF-IF.B.4
<a href="#">Periodicity of algebraic models</a>	HSF-IF.B.4
<a href="#">Average rate of change</a>	HSF-IF.B.6
<a href="#">Average rate of change word problems</a>	HSF-IF.B.6
<a href="#">Average rate of change: graphs &amp; tables</a>	HSF-IF.B.6
<a href="#">Absolute maxima and minima</a>	HSF-IF.C.7
<a href="#">Amplitude of sinusoidal functions from equation</a>	HSF-IF.C.7
<a href="#">Amplitude of sinusoidal functions from graph</a>	HSF-IF.C.7
<a href="#">Analyze vertical asymptotes of rational functions</a>	HSF-IF.C.7
<a href="#">End behavior of polynomials</a>	HSF-IF.C.7
<a href="#">End behavior of rational functions</a>	HSF-IF.C.7
<a href="#">Graph absolute value functions</a>	HSF-IF.C.7
<a href="#">Graphs of nonlinear piecewise functions</a>	HSF-IF.C.7
<a href="#">Graphs of rational functions</a>	HSF-IF.C.7
<a href="#">Midline of sinusoidal functions from equation</a>	HSF-IF.C.7
<a href="#">Midline of sinusoidal functions from graph</a>	HSF-IF.C.7
<a href="#">Period of sinusoidal functions from equation</a>	HSF-IF.C.7
<a href="#">Period of sinusoidal functions from graph</a>	HSF-IF.C.7
<a href="#">Piecewise functions graphs</a>	HSF-IF.C.7
<a href="#">Positive &amp; negative intervals of polynomials</a>	HSF-IF.C.7
<a href="#">Rational function points of discontinuity</a>	HSF-IF.C.7
<a href="#">Zeros of polynomials &amp; their graphs</a>	HSF-IF.C.7   HSF-IF.C.8
<a href="#">Equivalent forms of exponential expressions</a>	HSF-IF.C.8
<a href="#">Factor polynomials: common factor</a>	HSF-IF.C.8
<a href="#">Factor polynomials: quadratic methods</a>	HSF-IF.C.8
<a href="#">Factor polynomials: quadratic methods (challenge)</a>	HSF-IF.C.8

## Operations and Algebraic Thinking

### Use Functions to Model Relationships

### Standards Alignment

RIT Range: 243-252

[Factor polynomials: special product forms](#)

HSF-IF.C.8

[Find zeros of polynomials](#)

HSF-IF.C.8

[Exponential model word problems](#)

HSF-LE.A.4

[Solve exponential equations using logarithms: base-10 and base-e](#)

HSF-LE.A.4

[Solve exponential equations using logarithms: base-2 and other bases](#)

HSF-LE.A.4

[Modeling with sinusoidal functions: phase shift](#)

HSF-TF.B.5

[Use the Pythagorean identity](#)

HSF-TF.C.8

RIT Range: >253

[Model with composite functions](#)

HSF-BF.A.1

[Evaluate logarithms: change of base rule](#)

HSF-LE.A.4