**Alignment of Developmental Math Topics with Khan Academy, the Common Core and Applied Tasks**

**July 2014**

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| **Course Topic** | **Khan Videos** | **Khan Practice Sets** | **Core Standard(s)** | **Applied Tasks** |
| **Arithmetic** | | | | |
| Adding/Subtracting Integers | [Adding Integers With Different Signs](https://www.khanacademy.org/math/arithmetic/absolute-value/adding_subtracting_negatives/v/adding-integers-with-different-signs)  [Adding Negative Numbers](https://www.khanacademy.org/math/arithmetic/absolute-value/adding_subtracting_negatives/v/adding-negative-numbers) | [Adding Negative Numbers](https://www.khanacademy.org/math/arithmetic/absolute-value/adding_subtracting_negatives/e/adding_negative_numbers)  [Adding and Subtracting Negative Numbers](https://www.khanacademy.org/math/arithmetic/absolute-value/adding_subtracting_negatives/e/adding_and_subtracting_negative_numbers) | [CCSS.Math.Content.7.NS.A.1c](http://www.corestandards.org/Math/Content/7/NS/A/1/c)  [CCSS.Math.Content.7.NS.A.1d](http://www.corestandards.org/Math/Content/7/NS/A/1/d) | [The Locker Problem](http://mathforum.org/alejandre/frisbie/locker.html)  [Number Rules](http://nrich.maths.org/871)  [Never Prime](http://nrich.maths.org/704)  [Divisibility Problem](http://nrich.maths.org/612)  [Adding and Subtracting Signed Numbers](http://nrich.maths.org/5947) |
| Multiplying/Dividing Integers | [Multiplying Positive and Negative Numbers](https://www.khanacademy.org/math/arithmetic/absolute-value/mult_div_negatives/v/multiplying-positive-and-negative-numbers)  [Dividing Positive and Negative Numbers](https://www.khanacademy.org/math/arithmetic/absolute-value/mult_div_negatives/v/dividing-positive-and-negative-numbers)  [Multiplying Numbers With Different Signs](https://www.khanacademy.org/math/arithmetic/absolute-value/mult_div_negatives/v/multiplying-negative-real-numbers) | [Multiplying and Dividing Negative Numbers](https://www.khanacademy.org/math/arithmetic/absolute-value/mult_div_negatives/e/multiplying_and_dividing_negative_numbers)  [Negative Number Word Problems](https://www.khanacademy.org/math/arithmetic/absolute-value/mult_div_negatives/e/negative_number_word_problems) | [CCSS.Math.Content.7.NS.A.2a](http://www.corestandards.org/Math/Content/7/NS/A/2/a) [CCSS.Math.Content.7.NS.A.2b](http://www.corestandards.org/Math/Content/7/NS/A/2/b) |
| Rounding Numbers | [Rounding Decimals](https://www.khanacademy.org/math/arithmetic/decimals/decimal_rounding_estimation/v/rounding-decimals) | [Rounding Numbers](https://www.khanacademy.org/math/arithmetic/decimals/decimal_rounding_estimation/e/rounding_numbers) | [CCSS.Math.Content.5.NBT.A.4](http://www.corestandards.org/Math/Content/5/NBT/A/4) |
| Number Line | [Points on a Number Line](https://www.khanacademy.org/math/arithmetic/decimals/decimal_place_value/v/points-on-a-number-line)  [Positive and Negative Decimals on a Number Line](https://www.khanacademy.org/math/arithmetic/decimals/decimals-on-number-line/v/positive-and-negative-decimals-on-a-number-line) | [Decimals on the Number Line 1](https://www.khanacademy.org/math/arithmetic/decimals/decimals-on-number-line/e/decimals_on_the_number_line_1)  [Decimals on the Number Line](https://www.khanacademy.org/math/arithmetic/decimals/decimal_place_value/e/decimals_on_the_number_line_2) 2  [Decimals on the Number Line 3](https://www.khanacademy.org/math/arithmetic/decimals/decimals-on-number-line/e/decimals_on_the_number_line_3) | [CCSS.Math.Content.6.NS.C.6](http://www.corestandards.org/Math/Content/6/NS/C/6) |
| Square Roots | [Approximating Square Roots](https://www.khanacademy.org/math/arithmetic/exponents-radicals/radical-radicals/v/approximating-square-roots) | [Square Roots](https://www.khanacademy.org/math/arithmetic/exponents-radicals/radical-radicals/e/square_roots)  [Estimating Square Roots](https://www.khanacademy.org/math/arithmetic/exponents-radicals/radical-radicals/e/square_roots_2) | [CCSS.Math.Content.8.EE.A.2](http://www.corestandards.org/Math/Content/8/EE/A/2) |
| Prime and Composite Numbers | [Prime Numbers](https://www.khanacademy.org/math/arithmetic/factors-multiples/prime_numbers/v/prime-numbers)  [Recognizing Prime Numbers](https://www.khanacademy.org/math/arithmetic/factors-multiples/prime_numbers/v/recognizing-prime-numbers) | [Prime Numbers](https://www.khanacademy.org/math/arithmetic/factors-multiples/prime_numbers/e/prime_numbers)  [Composite Numbers](https://www.khanacademy.org/math/arithmetic/factors-multiples/prime_numbers/e/composite_numbers) | [CCSS.Math.Content.4.OA.B.4](http://www.corestandards.org/Math/Content/4/OA/B/4) |
| Divisibility Tests | [Divisibility Tests](https://www.khanacademy.org/math/arithmetic/factors-multiples/divisibility_tests/v/divisibility-tests-for-2--3--4--5--6--9--10) | [Divisibility Tests](https://www.khanacademy.org/math/arithmetic/factors-multiples/divisibility_tests/e/divisibility_tests) | [CCSS.Math.Content.4.OA.B.4](http://www.corestandards.org/Math/Content/4/OA/B/4) |
| Prime Factorization | [Prime Factorization](https://www.khanacademy.org/math/arithmetic/factors-multiples/prime_factorization/v/prime-factorization)  [Common Divisibility Examples](https://www.khanacademy.org/math/arithmetic/factors-multiples/prime_factorization/v/common-divisibility-examples) | [Prime Factorization](https://www.khanacademy.org/math/arithmetic/factors-multiples/prime_factorization/e/prime_factorization) | [CCSS.Math.Content.4.OA.B.4](http://www.corestandards.org/Math/Content/4/OA/B/4) |
| **Fractions** | [Identifying Fraction Parts](https://www.khanacademy.org/math/arithmetic/fractions/understanding_fractions/v/identifying-fraction-parts)  [Understanding Fractions as Division](https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-fractions-topic/cc-5th-dividing-fractions/v/fractions-as-division)  (**conceptual help)** | [Recognizing Fractions](https://www.khanacademy.org/math/arithmetic/fractions/understanding_fractions/e/recognizing_fractions_0.5)  [Fraction Word Problems](https://www.khanacademy.org/math/arithmetic/fractions/understanding_fractions/e/fraction_word_problems_1)  (**conceptual help)** |  |  |
| Ordering Fractions | [Plotting Fractions on the Number Line](https://www.khanacademy.org/math/arithmetic/fractions/understanding_fractions/v/plotting-basic-fractions-on-the-number-line) | [Fractions on the Number Line](https://www.khanacademy.org/math/arithmetic/fractions/understanding_fractions/e/fractions_on_the_number_line_1) | [CCSS.Math.Content.3.NF.A.2](http://www.corestandards.org/Math/Content/3/NF/A/2) | [Multiplying Fractions Word Problems](https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-fractions-topic/cc-5th-mult-frac-word-probs/e/multiplying-fractions-by-fractions-word-problems)  [Dividing Fractions Word Problems](http://mrnussbaum.com/grade5standards/579-2/)  [Fair Shares- Open-Ended Word Problem](http://nrich.maths.org/708)  [Fractions Jigsaw](http://nrich.maths.org/5467) |
| Adding/Subtracting Fractions | [Adding and Subtracting Fractions](https://www.khanacademy.org/math/arithmetic/fractions/Adding_and_subtracting_fractions/v/adding-and-subtracting-fractions)  [Adding Fractions with Different Signs](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-fractions-decimals/cc-6th-add-sub-fractions/v/adding-fractions-with-different-signs) | [Adding and Subtracting Fractions](https://www.khanacademy.org/math/arithmetic/fractions/Adding_and_subtracting_fractions/e/adding_and_subtracting_fractions) | [CCSS.Math.Content.5.NF.A.1](http://www.corestandards.org/Math/Content/5/NF/A/1) |
| Multiplying Fractions | [Multiplying Fractions](https://www.khanacademy.org/math/arithmetic/fractions/multiplying_and_dividing_frac/v/multiplying-fractions)  [Multiplying Negative and Positive Fractions](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-fractions-decimals/cc-7th-mult-div-frac/v/multiplying-negative-and-positive-fractions) | [Multiplying Fractions](https://www.khanacademy.org/math/arithmetic/fractions/multiplying_and_dividing_frac/e/multiplying_fractions) | [CCSS.Math.Content.5.NF.B.4](http://www.corestandards.org/Math/Content/5/NF/B/4) |
| Dividing Fractions | [Dividing Fractions Example](https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-arithmetic-operations/cc-6th-dividing-fractions/v/dividing-fractions-example)  [Dividing Fractions by Fractions](https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-arithmetic-operations/cc-6th-dividing-fractions/v/conceptual-understanding-of-dividing-fractions-by-fractions) | [Dividing Whole Numbers by Fractions](https://www.khanacademy.org/math/arithmetic/fractions/multiplying_and_dividing_frac/e/dividing_fractions)  [Dividing Fractions by Fractions](https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-arithmetic-operations/cc-6th-dividing-fractions/e/understanding-dividing-fractions-by-fractions) | [CCSS.Math.Content.6.NS.A.1](http://www.corestandards.org/Math/Content/6/NS/A/1) |

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| **Decimals and Percents** | | | | |
| Place Value | [Decimal Place Value](https://www.khanacademy.org/math/arithmetic/decimals/decimal_place_value/v/decimal-place-value)  [Comparing Decimal Place Value](https://www.khanacademy.org/math/arithmetic/decimals/decimal_place_value/v/comparing-place-values-in-decimals) | [Understanding Decimal’s Place Value](https://www.khanacademy.org/math/arithmetic/decimals/decimal_place_value/e/understanding_decimals_place_value)  [Comparing Decimal Place Value](https://www.khanacademy.org/math/arithmetic/decimals/decimal_place_value/e/comparing-decimal-place-value) | [CCSS.Math.Content.5.NBT.A.3](http://www.corestandards.org/Math/Content/5/NBT/A/3) | [Adding and Subtracting Decimals Word Problems](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/e/adding_and_subtracting_decimals_word_problems) (Khan)  [More Adding and Subtracting Decimals Word Problems](http://www.ixl.com/math/grade-5/add-and-subtract-decimals-word-problems)  [Money Word Problems](http://www.mathgoodies.com/lessons/decimals_part2/solve_more_problems.html)  [Another Money Word Problem](http://www.figurethis.org/challenges/c08/challenge.htm)  [Ratios Game](http://www.softschools.com/math/ratios/ratio_game/)  [Math in Special Effects: Ratios Problem](http://www.thirteen.org/get-the-math/the-challenges/math-in-special-effects/take-the-challenge/242/) |
| Adding/Subtracting Decimals | [Adding Decimals 1](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/v/adding-decimals-example-1)  [Adding Decimals 2](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/v/adding-decimals-example-2)  [Adding Decimals](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/v/adding-decimals) 3  [Subtracting Decimals](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/v/subtracting-decimals) | [Adding Decimals](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/e/adding_decimals) 1  [Adding Decimals 2](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/e/adding_decimals_2)  [Subtracting Decimals](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/e/subtracting_decimals) 1  [Subtracting Decimals 2](https://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/e/subtracting_decimals_2) | [CCSS.Math.Content.6.NS.B.3](http://www.corestandards.org/Math/Content/6/NS/B/3) |
| Multiplying/Dividing Decimals | [Multiplying Decimals](https://www.khanacademy.org/math/arithmetic/decimals/multiplying_decimals/v/multiplying-decimals)  [Multiplying Decimals- More Involved](https://www.khanacademy.org/math/arithmetic/decimals/multiplying_decimals/v/more-involved-multiplying-decimals-example)  [Dividing Decimals](https://www.khanacademy.org/math/arithmetic/decimals/dividing_decimals/v/dividing-decimals)  [Dividing Decimal Numbers](https://www.khanacademy.org/math/arithmetic/decimals/dividing_decimals/v/dividing-decimal) | [Multiplying Decimals 1](https://www.khanacademy.org/math/arithmetic/decimals/multiplying_decimals/e/multiplying_decimals_0.5)  [Multiplying Decimals 2](https://www.khanacademy.org/math/arithmetic/decimals/multiplying_decimals/e/multiplying_decimals_1)  [Multiplying Decimals](https://www.khanacademy.org/math/arithmetic/decimals/multiplying_decimals/e/multiplying_decimals) 3  [Dividing Decimals 1](https://www.khanacademy.org/math/arithmetic/decimals/dividing_decimals/e/dividing_decimals_1)  [Dividing Decimals 2](https://www.khanacademy.org/math/arithmetic/decimals/dividing_decimals/e/dividing_decimals_2)  [Dividing Decimals 3](https://www.khanacademy.org/math/arithmetic/decimals/dividing_decimals/e/dividing_decimals_3) | [CCSS.Math.Content.6.NS.B.3](http://www.corestandards.org/Math/Content/6/NS/B/3) |
| Solving Percent Problems | [Describing the Meaning of Percent](https://www.khanacademy.org/math/arithmetic/decimals/percent_tutorial/v/describing-the-meaning-of-percent)  [Taking Percentages](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/old-school-equations/v/taking-percentages)  [Percent Word Problems](https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-ratios-prop-topic/percent_word_problems/v/percent-word-problems) | [Percentage Word Problems 1](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/percent_word_problems/e/percentage_word_problems_1) | [CCSS.Math.Content.6.RP.A.3c](http://www.corestandards.org/Math/Content/6/RP/A/3/c) |
| Equating Decimals, Percents, Fractions | [Representing a Number as a Decimal, Percent, and Fraction](https://www.khanacademy.org/math/arithmetic/decimals/percent_tutorial/v/representing-a-number-as-a-decimal--percent--and-fraction) | [Converting Decimals to Fractions 1](https://www.khanacademy.org/math/arithmetic/fractions/decimals_fractions/e/converting_decimals_to_fractions_1)  [Converting Decimals to Percents](https://www.khanacademy.org/math/arithmetic/decimals/percent_tutorial/e/converting_decimals_to_percents)  [Converting Percents to Decimals](https://www.khanacademy.org/math/arithmetic/decimals/percent_tutorial/e/converting_percents_to_decimals) | [CCSS.Math.Content.6.NS.A.1](http://www.corestandards.org/Math/Content/6/NS/A/1) |
| Writng and Solving Proportions | [Writing Proportions](https://www.khanacademy.org/math/algebra/rational-expressions/ratios_algebra/v/writing-proportions)  [Finding an Unknown in a Proportion](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-constructing-proportions/v/find-an-unknown-in-a-proportion)  [Using Proportions to Solve Problems](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-constructing-proportions/v/constructing-proportions-to-solve-application-problems) | [Writing Proportions](https://www.khanacademy.org/math/arithmetic/rates-and-ratios/ratios_and_proportions/e/writing_proportions)  [Solving Proportions 1](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-constructing-proportions/e/proportions_1)  [Using Proportions to Solve Problems](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-constructing-proportions/e/constructing-proportions-to-solve-application-problems) | [CCSS.Math.Content.7.RP.A.2a](http://www.corestandards.org/Math/Content/7/RP/A/2/a)  [CCSS.Math.Content.7.RP.A.2c](http://www.corestandards.org/Math/Content/7/RP/A/2/c) |
| Simplifying Rates and Ratios | [Simplifying Rates and Ratios](https://www.khanacademy.org/math/arithmetic/rates-and-ratios/ratios_and_proportions/v/simplifying-rates-and-ratios) | [Ratio Word Problems](https://www.khanacademy.org/math/arithmetic/rates-and-ratios/ratios_and_proportions/e/ratio_word_problems) | [CCSS.Math.Content.7.RP.A.2a](http://www.corestandards.org/Math/Content/7/RP/A/2/a)  [CCSS.Math.Content.7.RP.A.2b](http://www.corestandards.org/Math/Content/7/RP/A/2/b) |
| **Real Numbers** | | | | |
| Properties of Real Numbers | [Commutative Law of Addition](https://www.khanacademy.org/math/arithmetic/order-of-operations/arithmetic_properties/v/commutative-law-of-addition)  [Commutative Law of Multiplication](https://www.khanacademy.org/math/arithmetic/order-of-operations/arithmetic_properties/v/commutative-law-of-multiplication)  [Associative Law of Addition](https://www.khanacademy.org/math/arithmetic/order-of-operations/arithmetic_properties/v/associative-law-of-addition)  [Associative Law of Multiplication](https://www.khanacademy.org/math/arithmetic/order-of-operations/arithmetic_properties/v/associative-law-of-multiplication)  [The Distributive Property](https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-factors-and-multiples/cc-6th-distributive-property/v/the-distributive-property) | [The Distributive Property](https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-factors-and-multiples/cc-6th-distributive-property/e/distributive_property) | [CCSS.Math.Content.6.EE.A.3](http://www.corestandards.org/Math/Content/6/EE/A/3) | [Working with Irrational Numbers](http://nrich.maths.org/8394) |
| Types of Numbers (Integers, Rational…) | [Number Sets](https://www.khanacademy.org/math/arithmetic/fractions/number_sets/v/number-sets)  [Number Sets 1](https://www.khanacademy.org/math/arithmetic/fractions/number_sets/v/number-sets-1)  [Number Sets 2](https://www.khanacademy.org/math/arithmetic/fractions/number_sets/v/number-sets-2) |  | [CCSS.Math.Content.8.EE.A.2](http://www.corestandards.org/Math/Content/8/EE/A/2) |
| Absolute Value | [Absolute Value and Number Lines](https://www.khanacademy.org/math/arithmetic/absolute-value/abs_value_tutorial/v/absolute-value-and-number-lines)  [Absolute Value Word Problems](https://www.khanacademy.org/math/arithmetic/absolute-value/abs_value_tutorial/v/absolute-value-word-problems-exercise) | [Finding Absolute Value](https://www.khanacademy.org/math/arithmetic/absolute-value/abs_value_tutorial/e/absolute_value)  [Absolute Value Word Problems](https://www.khanacademy.org/math/arithmetic/absolute-value/abs_value_tutorial/e/absolute-value-word-problems) | [CCSS.Math.Content.6.NS.C.7c](http://www.corestandards.org/Math/Content/6/NS/C/7/c) |
| Order of Operations/Simplifying Exp. | [Order of Operations 1](https://www.khanacademy.org/math/arithmetic/multiplication-division/order_of_operations/v/order-of-operations-1)  [Order of Operations- More Complicated](https://www.khanacademy.org/math/arithmetic/order-of-operations/order_of_operations/v/more-complicated-order-of-operations-example) | [Order of Operations](https://www.khanacademy.org/math/pre-algebra/order-of-operations/order_of_operations/e/order_of_operations_2)  [Order of Operations with Negative Numbers](https://www.khanacademy.org/math/arithmetic/order-of-operations/order_of_operations/e/order_of_operations) | [CCSS.Math.Content.7.EE.A.1](http://www.corestandards.org/Math/Content/7/EE/A/1) |

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| **Algebraic Expressions** | | | | |
| Defining and Using Variables | [What is a Variable?](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/variable-and-expressions/v/what-is-a-variable) |  | [CCSS.Math.Content.6.EE.A.2](http://www.corestandards.org/Math/Content/6/EE/A/2) | [Word Problems Involving Algebraic Expressions](http://www.ixl.com/math/grade-6/write-variable-expressions-to-represent-word-problems)  [Skeleton Tower Problem](http://map.mathshell.org/materials/download.php?fileid=810) |
| Evaluating Algebraic Expressions | [Evaluating Expressions With Two Variables](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/variable-and-expressions/v/evaluating-expressions-with-two-variables) | [Evaluating Expressions in One Variable](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/variable-and-expressions/e/evaluating_expressions_1)  [Evaluating Expressions in Two Variables](https://www.khanacademy.org/math/algebra/introduction-to-algebra/variable-and-expressions/e/evaluating_expressions_2) | [CCSS.Math.Content.6.EE.A.2c](http://www.corestandards.org/Math/Content/EE/A/2/c) |
| Translating words into Algebra | [Writing Expressions 1](https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-expressions-and-variables/cc-6th-writing-expressions/v/writing-expressions-1)  [Writing Expressions 2](https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-expressions-and-variables/cc-6th-writing-expressions/v/writing-expressions-2) | [Writing Expressions 1](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/manipulating-expressions/e/writing_expressions_1)  [Writing Expressions 2](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/manipulating-expressions/e/writing_expressions_2) | [CCSS.Math.Content.6.EE.A.2a](http://www.corestandards.org/Math/Content/EE/A/2/a) |
| Using Formulas | [Rearrange Formulas to Isolate a Variable](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/solving_for_variable/v/rearrange-formulas-to-isolate-specific-variables)  [Solving for a Variable](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/solving_for_variable/v/solving-for-a-variable)  [Solving for a Variable 2](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/solving_for_variable/v/solving-for-a-variable-2) | [Solving Equations in Terms of a Variable](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/solving_for_variable/e/solving_for_a_variable) | [CCSS.Math.Content.HSA-CED.A.4](http://www.corestandards.org/Math/Content/HSA/CED/A/4) |
| **Exponents and Roots** | | | | |
| Multiplying/Dividing Monomials | [Multiplying and Dividing Monomials 1](https://www.khanacademy.org/math/algebra/polynomials/multiplying_polynomials/v/multiplying-and-dividing--monomials-1)  [Multiplying and Dividing Monomials 2](https://www.khanacademy.org/math/algebra/polynomials/multiplying_polynomials/v/multiplying-and-dividing-monomials-2)  [Multiplying and Dividing Monomials 3](https://www.khanacademy.org/math/algebra/polynomials/multiplying_polynomials/v/multiplying-and-dividing-monomials-3) | [Simplifying Rational Expressions 1](https://www.khanacademy.org/math/algebra/rational-expressions/simplifying-rational-alg/e/simplifying_rational_expressions_1) | [CCSS.Math.Content.8.EE.A.1](http://www.corestandards.org/Math/Content/8/EE/A/1) | [Ponzi Schemes Problem](http://map.mathshell.org/materials/tasks.php?taskid=278&subpage=expert)  [Big and Small Numbers in the Physical World](http://nrich.maths.org/7278)  [Negative Power](http://nrich.maths.org/5873) |
| Evaluating Rational Exponents/Roots | [Radical Equivalent to Rational Exponents](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/radical-equivalent-to-rational-exponents)  [Simplifying with Exponent Properties](https://www.khanacademy.org/math/algebra/exponent-equations/fractional-exponents-tut/v/simplifying-with-exponent-properties)  [Negative Fractional Exponent Examples](https://www.khanacademy.org/math/algebra/exponent-equations/fractional-exponents-tut/v/negative-fractional-exponent-examples) | [Understanding Fractional Exponents](https://www.khanacademy.org/math/algebra/exponent-equations/fractional-exponents-tut/e/understanding-fractional-exponents)  [Manipulating Fractional Exponents](https://www.khanacademy.org/math/algebra/exponent-equations/fractional-exponents-tut/e/manipulating-fractional-exponents)  [Negative Fractional Exponents](https://www.khanacademy.org/math/arithmetic/exponents-radicals/negative-exponents-tutorial/e/exponents_4) | [CCSS.Math.Content.HSN-RN.A.1](http://www.corestandards.org/Math/Content/HSN/RN/A/1) |
| Monomials with Negative Exponents | [Simplifying Expressions With Exponents](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/simplifying-expressions-with-exponents)  [Simplifying Expressions With Exponents 2](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/simplifying-expressions-with-exponents-2) | [Simplifying Expressions With Exponents](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/e/simplifying_expressions_with_exponents) | [CCSS.Math.Content.8.EE.A.1](http://www.corestandards.org/Math/Content/8/EE/A/1) |
| Simplifying Roots | [Simplifying Square Roots](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/simplifying-square-roots)  [Radical Equivalent to Rational Exponents 2](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/radical-equivalent-to-rational-exponents-2) | [Simplifying Radicals](https://www.khanacademy.org/math/arithmetic/exponents-radicals/radical-radicals/e/simplifying_radicals) | [CCSS.Math.Content.8.EE.A.2](http://www.corestandards.org/Math/Content/8/EE/A/2) |
| Multiplying/Dividing Roots | [Multiply and Simplify a Radical Expression 1](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/multiply-and-simplify-a-radical-expression-1)  [Multiply and Simplify a Radical Expression 2](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/multiply-and-simplify-a-radical-expression-2) | [Multiplying Radicals](https://www.khanacademy.org/math/arithmetic/exponents-radicals/radical-radicals/e/multiplying_radicals) | [CCSS.Math.Content.8.EE.A.2](http://www.corestandards.org/Math/Content/8/EE/A/2) |
| Adding/Subtracting Roots | [Adding and Simplifying Radicals](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/adding-and-simplifying-radicals)  [Subtracting and Simplifying Radicals](https://www.khanacademy.org/math/algebra/exponent-equations/exponent-properties-algebra/v/subtracting-and-simplifying-radicals) | [Adding and Subtracting Radicals](https://www.khanacademy.org/math/arithmetic/exponents-radicals/radical-radicals/e/adding_and_subtracting_radicals) | [CCSS.Math.Content.8.EE.A.2](http://www.corestandards.org/Math/Content/8/EE/A/2) |
| Scientific Notation | [Scientific Notation Examples](https://www.khanacademy.org/math/arithmetic/exponents-radicals/scientific-notation/v/scientific-notation-examples)  [Scientific Notation Example 1](https://www.khanacademy.org/math/arithmetic/exponents-radicals/scientific-notation/v/scientific-notation-i)  [Scientific Notation Example 2](https://www.khanacademy.org/math/arithmetic/exponents-radicals/scientific-notation/v/scientific-notation-example-2) | [Scientific Notation](https://www.khanacademy.org/math/arithmetic/exponents-radicals/scientific-notation/e/scientific_notation)  [Multiplying and Dividing Scientific Notation](https://www.khanacademy.org/math/arithmetic/exponents-radicals/scientific-notation/e/multiplying_and_dividing_scientific_notation) | [CCSS.Math.Content.8.EE.A.4](http://www.corestandards.org/Math/Content/8/EE/A/4) |
| Radical Equations | [Solving Radical Equations](https://www.khanacademy.org/math/algebra/exponent-equations/radical_equations/v/solving-radical-equations)  [Solving Radical Equations 1](https://www.khanacademy.org/math/algebra/exponent-equations/radical_equations/v/solving-radical-equations-1)  [Solving Radical Equations 2](https://www.khanacademy.org/math/algebra/exponent-equations/radical_equations/v/solving-radical-equations-2)  [Solving Radical Equations 3](https://www.khanacademy.org/math/algebra/exponent-equations/radical_equations/v/solving-radical-equations-3) | [Radical Equations](https://www.khanacademy.org/math/arithmetic/exponents-radicals/exponent-expressions-equations/e/radical_equations)  [Extraneous Solutions to Radical Equations](https://www.khanacademy.org/math/algebra/exponent-equations/radical_equations/e/extraneous-solutions-to-radical-equations) | [CCSS.Math.Content.HSA-REI.A.2](http://www.corestandards.org/Math/Content/HSA/REI/A/2) |

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| **Polynomials** | | | | |
| Adding/Subtracting Polynomials | [Adding and Subtracting Polynomials 1](https://www.khanacademy.org/math/algebra/polynomials/polynomial_basics/v/adding-and-subtracting-polynomials-1)  [Adding Polynomials With Multiple Variables](https://www.khanacademy.org/math/algebra/polynomials/polynomial_basics/v/example--adding-polynomials-with-multiple-variables) | [Adding and Subtracting Polynomials](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/polynomial_tutorial/e/adding_and_subtracting_polynomials) | [CCSS.Math.Content.HSA-APR.A.1](http://www.corestandards.org/Math/Content/HSA/APR/A/1) | [Finding Factors](http://nrich.maths.org/7452)  [Difference of Squares Exploration](http://nrich.maths.org/658) (Plus/Minus)  [Roots of Polynomials](http://nrich.maths.org/2047)  (Poly Fibs)  [Polynomial Relations](http://nrich.maths.org/331) |
| Multiplying Polynomials | [Multiplying Binomials](https://www.khanacademy.org/math/algebra/polynomials/multiplying_polynomials/v/multiplying-binomials)  [Multiplying Polynomials](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/polynomial_tutorial/v/multiplying-polynomials) | [Multiplying Polynomials](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/polynomial_tutorial/e/multiplying_polynomials)  [Multiplying Binomials](https://www.khanacademy.org/math/algebra/polynomials/multiplying_polynomials/e/multiplying_expressions_0.5) 1  [Multiplying Binomials](https://www.khanacademy.org/math/algebra/polynomials/multiplying_polynomials/e/multiplying_expressions_1) 2 | [CCSS.Math.Content.HSA-APR.A.1](http://www.corestandards.org/Math/Content/HSA/APR/A/1) |
| Distributive Property | [Multiplying Monomials by Polynomials](https://www.khanacademy.org/math/algebra/polynomials/multiplying_polynomials/v/multiplying-monomials-by-polynomials) |  | [CCSS.Math.Content.HSA-APR.A.1](http://www.corestandards.org/Math/Content/HSA/APR/A/1) |
| Factoring Polynomials | [Factoring Quadratic Expressions](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_factoring/v/factoring-quadratic-expressions)  [Factoring Polynomials 1](https://www.khanacademy.org/math/algebra2/polynomial_and_rational/quad_factoring/v/factoring-polynomials-1)  [Factoring Trinomials With a Common Factor](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_factoring/v/factoring-trinomials-with-a-common-factor)  [Factoring Difference of Squares](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_factoring/v/factoring-difference-of-squares) | [Factoring Polynomials 1](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_factoring/e/factoring_polynomials_1)  [Factoring Polynomials With Two Variables](https://www.khanacademy.org/math/algebra/quadratics/factoring_quadratics/e/factoring_polynomials_with_two_variables)  [Factoring Difference of Squares 2](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_factoring/e/factoring_difference_of_squares_2) | [CCSS.Math.Content.HSA-SSE.B.3a](http://www.corestandards.org/Math/Content/HSA/SSE/B/3/a) |
| Dividing Polynomials | [Dividing Polynomials With Remainders](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/polynomial_tutorial/v/dividing-polynomials-with-remainders)  [Dividing Polynomials 1](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/polynomial_tutorial/v/dividing-polynomials-1) | [Dividing Polynomials by Binomials 1](https://www.khanacademy.org/math/algebra/rational-expressions/simplifying-rational-alg/e/dividing_polynomials_by_binomials_1)  [Dividing Polynomials by Binomials 2](https://www.khanacademy.org/math/algebra/rational-expressions/simplifying-rational-alg/e/dividing_polynomials_by_binomials_2)  [Dividing Polynomials by Binomials 3](https://www.khanacademy.org/math/algebra/rational-expressions/simplifying-rational-alg/e/dividing_polynomials_by_binomials_3) | [CCSS.Math.Content.HSA-APR.D.6](http://www.corestandards.org/Math/Content/HSA/APR/D/6) |
| **Solving Equations and Inequalities** | | | | |
| Solving Linear Equations | [Solving One-Step Equations](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/equations_beginner/v/solving-one-step-equations)  [Two-Step Equations](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/equations_beginner/v/two-step-equations)  [Multi-Step Equation Example](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/complicated_equations/v/ex-1-multi-step-equation)  [Solving Equations With the Distributive Property](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/complicated_equations/v/solving-equations-with-the-distributive-property-2) | [One-Step Equations](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/equations_beginner/e/one_step_equations)  [2-step Equations](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/equations_beginner/e/linear_equations_2)  [Multi-Step Equations With Distribution](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/complicated_equations/e/multistep_equations_with_distribution) | [CCSS.Math.Content.HSA-CED.A.1](http://www.corestandards.org/Math/Content/HSA/CED/A/1)  [CCSS.Math.Content.HSA-REI.A.2](http://www.corestandards.org/Math/Content/HSA/REI/A/2)  [CCSS.Math.Content.HSA-REI.B.3](http://www.corestandards.org/Math/Content/HSA/REI/B/3) | [Predicting Sports Records](http://www.thefutureschannel.com/pdf/algebra/40_years_from_now_student.pdf)  [Sky High Scrapers](http://www.thefutureschannel.com/pdf/algebra/skyhighscrapers_student.PDF)  [Kitchen Paraboloids (Quadratics Problem)](http://www.thefutureschannel.com/pdf/algebra/kitchen_paraboloids_stu.pdf)  [Agile Algebra: Challenging Equations](http://nrich.maths.org/7074) |
| Solving Linear Inequalities | [One-Step Inequalities](https://www.khanacademy.org/math/algebra/linear_inequalities/inequalities/v/one-step-inequalities)  [Interpreting Inequalities with Examples](https://www.khanacademy.org/math/algebra/linear_inequalities/inequalities/v/interpreting-inequalities)  [Multi-Step Inequalities 3](https://www.khanacademy.org/math/algebra/linear_inequalities/inequalities/v/multi-step-inequalities-3) | [One-Step Inequalities](https://www.khanacademy.org/math/algebra/linear_inequalities/inequalities/e/one_step_inequalities)  [Multi-Step Linear Inequalities](https://www.khanacademy.org/math/algebra/linear_inequalities/inequalities/e/linear_inequalities) | [CCSS.Math.Content.HSA-CED.A.1](http://www.corestandards.org/Math/Content/HSA/CED/A/1)  [CCSS.Math.Content.HSA-REI.B.3](http://www.corestandards.org/Math/Content/HSA/REI/B/3) |
| Solving Quadratics by Factoring | [Solving a Quadratic by Factoring](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_factoring/v/Example%201:%20Solving%20a%20quadratic%20equation%20by%20factoring)  [Recognizing a Perfect Square Quadratic](https://www.khanacademy.org/math/algebra2/polynomial_and_rational/quad_factoring/v/Example%202:%20Solving%20a%20quadratic%20equation%20by%20factoring) | [Solving Quadratics by Factoring](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_factoring/e/solving_quadratics_by_factoring)  [Solving Quadratics by Factoring 2](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_factoring/e/solving_quadratics_by_factoring_2) | [CCSS.Math.Content.HSA-SSE.B.3a](http://www.corestandards.org/Math/Content/HSA/SSE/B/3/a)  [CCSS.Math.Content.HSA-CED.A.1](http://www.corestandards.org/Math/Content/HSA/CED/A/1)  [CCSS.Math.Content.HSA-REI.B.4](http://www.corestandards.org/Math/Content/HSA/REI/B/4) |
| Graphing Quadratics | [Graphing a Quadratic Function](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/solving_graphing_quadratics/v/graphing-a-quadratic-function)  [Graphs of Quadratic Functions](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/solving_graphing_quadratics/v/graphs-of-quadratic-functions) | [Graphs of Quadratic Functions](https://www.khanacademy.org/math/algebra/quadratics/solving_graphing_quadratics/e/graphing_parabolas_0.5)  [Graphing Parabolas in Vertex Form](https://www.khanacademy.org/math/algebra/quadratics/solving_graphing_quadratics/e/graphing_parabolas_1) | [CCSS.Math.Content.HSA-APR.B.3](http://www.corestandards.org/Math/Content/HSA/APR/B/3) |
| Solving Quad. by Completing the Square | [Solving Quadratics by Completing the Square](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_formula_tutorial/v/solving-quadratic-equations-by-completing-the-square) | [Completing the Square 1](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_formula_tutorial/e/completing_the_square_1)  [Completing the Square 2](https://www.khanacademy.org/math/trigonometry/polynomial_and_rational/quad_formula_tutorial/e/completing_the_square_2) | [CCSS.Math.Content.HSA-SSE.B.3b](http://www.corestandards.org/Math/Content/HSA/SSE/B/3/b)  [CCSS.Math.Content.HSA-REI.B.4a](http://www.corestandards.org/Math/Content/HSA/REI/B/4/a) |
| Using the Quadratic Formula | [Using the Quadratic Formula](https://www.khanacademy.org/math/algebra/quadratics/quadratic_formula/v/using-the-quadratic-formula)  [Applying the Quadratic Formula](https://www.khanacademy.org/math/algebra/quadratics/quadratic_formula/v/application-problem-with-quadratic-formula) | [Quadratic Formula](https://www.khanacademy.org/math/algebra/quadratics/quadratic_formula/e/quadratic_equation) | [CCSS.Math.Content.HSA-REI.B.4b](http://www.corestandards.org/Math/Content/HSA/REI/B/4/b) |

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| **Graphs and Linear Functions** | | | | |
| Graphing Lines | [Graphing Lines 1](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_solutions2/v/algebra--graphing-lines-1)  [Plotting x-y relationships](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_solutions2/v/plotting--x-y--relationships)  [Graphs of Linear Equations](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_solutions2/v/graphs-of-linear-equations) | [Ordered Pair Solutions to Linear Equations](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_solutions2/e/identifying_points_2)  [Graphing Linear Equations](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/equation-of-a-line/e/graphing_linear_equations) | [CCSS.Math.Content.HSA-REI.D.10](http://www.corestandards.org/Math/Content/HSA/REI/D/10) | [Math in Video Game Design](http://www.thirteen.org/get-the-math/the-challenges/math-in-videogames/try-other-videogame-challenges/19/)  [Restaurant Management Problem](http://www.thirteen.org/get-the-math/the-challenges/math-in-restaurants/take-the-challenge/183/)  [Temperature Equation](http://nrich.maths.org/5608)  [Parallel Lines](http://nrich.maths.org/5609)  [Perpendicular Lines](http://nrich.maths.org/5610) |
| Writing Equations of Lines | [Equation of a Line 1](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/equation-of-a-line/v/equation-of-a-line-1)  [Equation of a Line](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/equation-of-a-line/v/equation-of-a-line-hairier-example) from slope and point  [Equation of a Line from 2 points](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/equation-of-a-line/v/equation-of-a-line-3) | [Slope-Intercept Form](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/equation-of-a-line/e/slope_intercept_form) | [CCSS.Math.Content.8.F.B.4](http://www.corestandards.org/Math/Content/8/F/B/4) |
| Slopes and Intercepts | [x and y intercepts](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_with_intercepts/v/x--and-y-intercepts)  [x and y intercepts 2](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_with_intercepts/v/x-and-y-intercepts-2)  [Slope of a Line](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/slope-and-intercepts/v/slope-of-a-line)  [Graphical Slope of a Line](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/slope-and-intercepts/v/graphical-slope-of-a-line) | [Solving for the y-intercept](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/equation-of-a-line/e/solving_for_the_y-intercept)  [Solving for the x-intercept](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_with_intercepts/e/solving_for_the_x-intercept)  [Identifying Slope of a Line](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/slope-and-intercepts/e/slope_of_a_line) | [CCSS.Math.Content.HSA-REI.D.11](http://www.corestandards.org/Math/Content/HSA/REI/D/11) |
| Parallel and Perpendicular Lines | [Parallel Line Equation](https://www.khanacademy.org/math/trigonometry/graphs/parallel_perpendicular/v/parallel-line-equation)  [Perpendicular Line Slope](https://www.khanacademy.org/math/trigonometry/graphs/parallel_perpendicular/v/perpendicular-line-slope)  [Equations of Parallel and Perpendicular Lines](https://www.khanacademy.org/math/trigonometry/graphs/parallel_perpendicular/v/equations-of-parallel-and-perpendicular-lines)  [Parallel Lines 2](https://www.khanacademy.org/math/trigonometry/graphs/parallel_perpendicular/v/parallel-lines-2) | [Equations of Parallel and Perpendicular Lines](https://www.khanacademy.org/math/trigonometry/graphs/parallel_perpendicular/e/line_relationships) |  |
| Scatter Plots and Lines of Best Fit | [Fitting a Line to Data](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/equation-of-a-line/v/fitting-a-line-to-data) | [Estimating the Line of Best Fit](https://www.khanacademy.org/math/probability/regression/regression-correlation/e/plotting_the_line_of_best_fit) | [CCSS.Math.Content.8.SP.A.1](http://www.corestandards.org/Math/Content/8/SP/A/1)  [CCSS.Math.Content.8.SP.A.2](http://www.corestandards.org/Math/Content/8/SP/A/2) |
| Graphing Inequalities | [Graphing Linear Inequalities in Two Variables 2](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing-linear-inequalities/v/graphing-linear-inequalities-in-two-variables-example-2)  [Graphing Linear Inequalities in Two Variables 3](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing-linear-inequalities/v/graphing-linear-inequalities-in-two-variables-3) | [Graphs of Inequalities](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing-linear-inequalities/e/graphs_of_inequalities)  [Graphing and Solving Linear Inequalities](https://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing-linear-inequalities/e/graphing_inequalities_2) | [CCSS.Math.Content.HSA-REI.D.12](http://www.corestandards.org/Math/Content/HSA/REI/D/12) |
| Word Problems with Linear Equations | [Basic Linear Equation Word Problems](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/basic-equation-practice/v/basic-linear-equation-word-problem) | [Linear Equation Word Problems](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/linear-equation-word-problems-tu/e/linear-equation-world-problems-2) | [CCSS.Math.Content.HSA-CED.A.1](http://www.corestandards.org/Math/Content/HSA/CED/A/1) |

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| **Systems of Equations** | | | | |
| Solving Linear Systems by Graphing | [Solving Systems Graphically](https://www.khanacademy.org/math/trigonometry/systems_eq_ineq/systems_tutorial_precalc/v/solving-systems-graphically) | [Graphing Systems of Equations](https://www.khanacademy.org/math/trigonometry/systems_eq_ineq/systems_tutorial_precalc/e/graphing_systems_of_equations) | [CCSS.Math.Content.HSA-CED.A.2](http://www.corestandards.org/Math/Content/HSA/CED/A/2)  [CCSS.Math.Content.HSA-REI.C.6](http://www.corestandards.org/Math/Content/HSA/REI/C/6) | [Matchless Problem](http://nrich.maths.org/5674)  [Equations of Chemical Reactions](http://nrich.maths.org/1347) |
| Solving Linear Systems by Elimination | [Solving Systems of Equations by Elimination](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/fast-systems-of-equations/v/solving-systems-of-equations-by-elimination)  [Solving Systems of Equations by Multiplication](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/fast-systems-of-equations/v/solving-systems-of-equations-by-multiplication) | [Systems of Equations with Elimination](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/fast-systems-of-equations/e/systems_of_equations_with_elimination)  [Systems of Equations with Simple Elimination](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/fast-systems-of-equations/e/systems_of_equations_with_elimination_0.5) | [CCSS.Math.Content.HSA-CED.A.2](http://www.corestandards.org/Math/Content/HSA/CED/A/2)  [CCSS.Math.Content.HSA-REI.C.5](http://www.corestandards.org/Math/Content/HSA/REI/C/5) |
| Solving Linear Systems by Substitution | [The Substitution Method](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-with-substitution/v/the-substitution-method)  [Substitution Method 2](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-with-substitution/v/substitution-method-2)  [Substitution Method 3](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-with-substitution/v/substitution-method-3)  [Solving Systems by Substitution 2](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-with-substitution/v/solving-systems-by-substitution-2) | [Systems of Equations with Substitution](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-with-substitution/e/systems_of_equations_with_substitution) | [CCSS.Math.Content.HSA-CED.A.2](http://www.corestandards.org/Math/Content/HSA/CED/A/2) |
| Graphing Systems of Inequalities | [Graphical Systems of Inequalities](https://www.khanacademy.org/math/trigonometry/systems_eq_ineq/systems_inequalities_precalc/v/graphical-system-of-inequalities)  [Graphing Systems of Inequalities](https://www.khanacademy.org/math/trigonometry/systems_eq_ineq/systems_inequalities_precalc/v/graphing-systems-of-inequalities-2)  [Graphing Systems of Inequalities 2](https://www.khanacademy.org/math/trigonometry/systems_eq_ineq/systems_inequalities_precalc/v/u06-l3-t1-we3-graphing-systems-of-inequalities) | [Graphing Systems of Inequalities](https://www.khanacademy.org/math/trigonometry/systems_eq_ineq/systems_inequalities_precalc/e/graphing_systems_of_inequalities)  [Graphing and Solving Systems of Inequalities](https://www.khanacademy.org/math/trigonometry/systems_eq_ineq/systems_inequalities_precalc/e/graphing_systems_of_inequalities_2) | [CCSS.Math.Content.HSA-CED.A.2](http://www.corestandards.org/Math/Content/HSA/CED/A/2) |
| Solving Quadratic Systems | [Non-Linear Systems of Equations 1](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/fancier-systems/v/non-linear-systems-of-equations-1)  [Non-Linear Systems of Equations 2](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/fancier-systems/v/non-linear-systems-of-equations-2)  [Non-Linear Systems of Equations 3](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/fancier-systems/v/non-linear-systems-of-equations-3) | [Non-Linear Systems](https://www.khanacademy.org/math/algebra2/systems_eq_ineq/non-linear-systems-tutorial/e/intersecting-functions) | [CCSS.Math.Content.HSA-REI.C.7](http://www.corestandards.org/Math/Content/HSA/REI/C/7) |
| Systems of Equations Word Problems | [Solving a Word Problem with Substitution](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-word-problems/v/algebraic-word-problem)  [Mixture Problems](https://www.khanacademy.org/math/algebra/solving-linear-equations-and-inequalities/More-equation-practice/v/mixture-problems-2)  [Systems and Rate Problems](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-word-problems/v/systems-and-rate-problems)  [Problem Solving Word Problems](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-word-problems/v/problem-solving-word-problems-2) 2 | [Systems of Equations Word Problems](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-word-problems/e/systems_of_equations_word_problems)  [Understanding Systems of Equations Word Problems](https://www.khanacademy.org/math/algebra/systems-of-eq-and-ineq/systems-word-problems/e/understanding-systems-of-equations-word-problems) | [CCSS.Math.Content.HSA-CED.A.2](http://www.corestandards.org/Math/Content/HSA/CED/A/2)  [CCSS.Math.Content.HSA-CED.A.3](http://www.corestandards.org/Math/Content/HSA/CED/A/3) |

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| **Functions** | | | | |
| Definition of Function | [Intro to Functions](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/v/introduction-to-functions)  [Functional Relationships 1](https://www.khanacademy.org/math/algebra/algebra-functions/relationships_functions/v/functional-relationships-1)  [Testing if a Relationship is a Function](https://www.khanacademy.org/math/algebra/algebra-functions/relationships_functions/v/testing-if-a-relationship-is-a-function) | [Recognizing Functions](https://www.khanacademy.org/math/algebra/algebra-functions/relationships_functions/e/recognizing_functions)  [Recognizing Functions 2](https://www.khanacademy.org/math/algebra/algebra-functions/relationships_functions/e/recog-func-2) | [CCSS.Math.Content.HSF-IF.A.1](http://www.corestandards.org/Math/Content/HSF/IF/A/1) | [Painting by Functions](http://nrich.maths.org/7021)  [Equation Matcher](http://nrich.maths.org/6301)  [Motion Capture](http://nrich.maths.org/4873) |
| Evaluating Functions | [Evaluating with Function Notation](https://www.khanacademy.org/math/algebra2/functions_and_graphs/copy-of-relationships_functions-2014-03-28T18:09:49.924Z/v/linear-function-graphs)  [Evaluating a Function](https://www.khanacademy.org/math/algebra/algebra-functions/graphing_functions/v/evaluating-functions) | [Understanding Function Notation](https://www.khanacademy.org/math/trigonometry/functions_and_graphs/function_introduction/e/functions_1) | [CCSS.Math.Content.HSF-IF.A.2](http://www.corestandards.org/Math/Content/HSF/IF/A/2) |
| Graphs of Functions | [Functions as Graphs](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/v/functions-as-graphs)  [Graphing a Basic Function](https://www.khanacademy.org/math/algebra/algebra-functions/graphing_functions/v/graphing-a--basic-function) | [Views of a Function](https://www.khanacademy.org/math/algebra/algebra-functions/graphing_functions/e/views_of_a_function) | [CCSS.Math.Content.HSF-IF.C.7](http://www.corestandards.org/Math/Content/HSF/IF/C/7) |
| Domain and Range | [Domain of a Function](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/v/domain-of-a-function)  [Domain and Range of a Relation](https://www.khanacademy.org/math/algebra/algebra-functions/domain_and_range/v/domain-and-range-of-a-relation)  [Domain and Range of a Function Given a Formula](https://www.khanacademy.org/math/algebra/algebra-functions/domain_and_range/v/domain-and-range-of-a-function-given-a-formula) | [Domain of a Function](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/e/domain_of_a_function)  [Range of a Function](https://www.khanacademy.org/math/algebra/algebra-functions/domain_and_range/e/range_of_a_function)  [Domain and Range](https://www.khanacademy.org/math/algebra/algebra-functions/domain_and_range/e/domain_and_range_0.5) | [CCSS.Math.Content.HSF-IF.B.5](http://www.corestandards.org/Math/Content/HSF/IF/B/5) |
| Operations on Functions | [Functions Part 2](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/v/functions-part-2)  [Sum of Functions](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/v/sum-of-functions)  [Difference of Functions](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/v/difference-of-functions)  [Product of Functions](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/v/product-of-functions)  [Quotient of Functions](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/v/quotient-of-functions)  [Evaluating Composite Functions](https://www.khanacademy.org/math/algebra/algebra-functions/eval-function-expressions/v/evaluating-composite-functions-example-1) | [Evaluating Expressions With Function Notation](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/e/functions_2)  [Evaluating Composite Functions](https://www.khanacademy.org/math/algebra/algebra-functions/intro_functions/e/functions_3) | [CCSS.Math.Content.HSF-BF.A.1b](http://www.corestandards.org/Math/Content/HSF/BF/A/1/b)  [CCSS.Math.Content.HSF-BF.A.1c](http://www.corestandards.org/Math/Content/HSF/BF/A/1/c) |
| Inverse Functions | [Introduction to Function Inverses](https://www.khanacademy.org/math/trigonometry/functions_and_graphs/fucntion_inverses/v/introduction-to-function-inverses)  [Function Inverse Example 1](https://www.khanacademy.org/math/trigonometry/functions_and_graphs/fucntion_inverses/v/function-inverse-example-1)  [Function Inverse Example 2](https://www.khanacademy.org/math/trigonometry/functions_and_graphs/fucntion_inverses/v/function-inverses-example-2)  [Function Inverse Example 3](https://www.khanacademy.org/math/trigonometry/functions_and_graphs/fucntion_inverses/v/function-inverses-example-3) | [Inverses of Functions](https://www.khanacademy.org/math/trigonometry/functions_and_graphs/fucntion_inverses/e/inverses_of_functions) | [CCSS.Math.Content.HSF-BF.B.4](http://www.corestandards.org/Math/Content/HSF/BF/B/4) |

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| **Rational Expressions** | | | | |
| Simplifying Rational Expressions | [Simplifying Rational Expressions 2](https://www.khanacademy.org/math/algebra/rational-expressions/simplifying-rational-alg/v/simplifying-rational-expressions-2)  [Simplifying Rational Expressions 3](https://www.khanacademy.org/math/algebra/rational-expressions/simplifying-rational-alg/v/simplifying-rational-expressions-3) | [Simplifying Rational Expressions 2](https://www.khanacademy.org/math/algebra/rational-expressions/simplifying-rational-alg/e/simplifying_rational_expressions_2)  [Simplifying Rational Expressions 3](https://www.khanacademy.org/math/algebra/rational-expressions/simplifying-rational-alg/e/simplifying_rational_expressions_3) | [CCSS.Math.Content.HSA-APR.D.7](http://www.corestandards.org/Math/Content/HSA/APR/D/7) | [Graphs of Changing Areas (Rational Functions)](http://nrich.maths.org/7559) |
| Multiplying/Dividing Rat’l Expressions | [Multiplying and Dividing Rational Expressions 2](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/multiplying-and-dividing-rational-expressions-2)  [Multiplying and Dividing Rational Expressions 3](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/multiplying-and-dividing-rational-expressions-3) |  | [CCSS.Math.Content.HSA-APR.D.7](http://www.corestandards.org/Math/Content/HSA/APR/D/7) |
| Adding/Subtracting Rat’l Expressions | [Adding and Subtracting Rational Expressions](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/adding-and-subtracting-rational-expressions)  [Adding and Subtracting Rational Expressions 2](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/adding-and-subtracting-rational-expressions-2)  [Adding and Subtracting Rational Expressions 3](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/adding-and-subtracting-rational-expressions-3)  [Simplifying First for Subtracting Rational Expressions](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/simplifying-first-for-subtracting-rational-expressions)  [Constructing Scale Drawings](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/e/constructing-scale-drawings) |  | [CCSS.Math.Content.HSA-APR.D.7](http://www.corestandards.org/Math/Content/HSA/APR/D/7) |
| Simplifying Complex Fractions |  |  | [CCSS.Math.Content.HSA-APR.D.7](http://www.corestandards.org/Math/Content/HSA/APR/D/7) |
| Solving Rational Equations | [Solving Rational Equations](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/solving-rational-equations-1)  [Solving Rational Equations 2](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/solving-rational-equations-2)  [Solving Rational Equations 3](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/solving-rational-equations-3) |  | [CCSS.Math.Content.HSA-CED.A.1](http://www.corestandards.org/Math/Content/HSA/CED/A/1) | [Applying Rational Equations 1](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/applying-rational-equations-1)  [Applying Rational Equations 2](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/applying-rational-equations-2)  [Applying Rational Equations 3](https://www.khanacademy.org/math/algebra/rational-expressions/rational_expressions/v/applying-rational-equations-3) |

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| **Geometry and Measurement** | | | | |
| Scale and Measurement | [Interpreting Scale Drawings](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/v/scale-drawing-example-2)  [Constructing Scale Drawings](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/v/Constructing%20scale%20drawings) | [Interpreting Scale Drawings](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/e/interpreting-scale-drawings)  [Constructing Scale Drawings](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/e/constructing-scale-drawings) | [CCSS.Math.Content.3.MD.B.3](http://www.corestandards.org/Math/Content/3/MD/B/3)  [CCSS.Math.Content.5.MD.A.1](http://www.corestandards.org/Math/Content/5/MD/A/1) | [Geometry Word Problems from fi.edu](http://learn.fi.edu/school/math2/)  [Popcorn: Volume of Cylinders](http://www.figurethis.org/challenges/c03/challenge.htm)  [Fruit Boxes: Area and Volume Problem](http://map.mathshell.org/materials/download.php?fileid=802) |
| Area, Perimeter, Circumference | [Perimeter and Area Basics](https://www.khanacademy.org/math/geometry/basic-geometry/perimeter_area_tutorial/v/perimeter-and-area-basics)  [Finding Dimensions from Area and Perimeter](https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-measurement-topic/cc-4th-area-and-perimeter/v/length-and-width-from-perimeter-and-area)  [Radius, Diameter and Circumference](https://www.khanacademy.org/math/geometry/basic-geometry/circum_area_circles/v/circles--radius--diameter-and-circumference)  [Area of a Circle](https://www.khanacademy.org/math/geometry/basic-geometry/circum_area_circles/v/area-of-a-circle) | [Area of Triangles 1](https://www.khanacademy.org/math/geometry/basic-geometry/perimeter_area_tutorial/e/area_of_triangles_1)  [[Area of Triangles 2](https://www.khanacademy.org/math/geometry/basic-geometry/perimeter_area_tutorial/e/area_of_triangles_1)](https://www.khanacademy.org/math/geometry/basic-geometry/perimeter_area_tutorial/e/area-of-triangles-2)  [Area of Squares and Rectangles](https://www.khanacademy.org/math/geometry/basic-geometry/perimeter_area_basics/e/area_of_squares_and_rectangles)  [Perimeter 1](https://www.khanacademy.org/math/geometry/basic-geometry/perimeter_area_basics/e/perimeter_1)  [Perimeter of Squares and Rectangles](https://www.khanacademy.org/math/geometry/basic-geometry/perimeter_area_basics/e/perimeter_of_squares_and_rectangles)  [Radius, Diameter and Circumference](https://www.khanacademy.org/math/geometry/basic-geometry/circum_area_circles/e/radius_diameter_and_circumference)  [Area of a Circle](https://www.khanacademy.org/math/geometry/basic-geometry/circum_area_circles/e/area_of_a_circle)  [Shaded Areas](https://www.khanacademy.org/math/geometry/basic-geometry/perimeter_area_tutorial/e/shaded_areas) | [CCSS.Math.Content.HSG-MG.A.1](http://www.corestandards.org/Math/Content/HSG/MG/A/1) |
| Pythagorean Theorem | [The Pythagorean Theorem Intro](https://www.khanacademy.org/math/geometry/right_triangles_topic/pyth_theor/v/the-pythagorean-theorem)  [Pythagorean Theorem 2](https://www.khanacademy.org/math/geometry/right_triangles_topic/pyth_theor/v/pythagorean-theorem-ii) | [Pythagorean Theorem](https://www.khanacademy.org/math/algebra/pythagorean-theorem/e/e/pythagorean_theorem_1) | [CCSS.Math.Content.8.G.B.7](http://www.corestandards.org/Math/Content/8/G/B/7) |
| Find Volume of Solids | [Solid Geometry Volume](https://www.khanacademy.org/math/geometry/basic-geometry/volume_tutorial/v/solid-geometry-volume)  [Cylinder Volume and Surface Area](https://www.khanacademy.org/math/geometry/basic-geometry/volume_tutorial/v/cylinder-volume-and-surface-area)  [Volume of a Sphere](https://www.khanacademy.org/math/geometry/basic-geometry/volume_tutorial/v/volume-of-a-sphere) | [Solid Geometry](https://www.khanacademy.org/math/geometry/basic-geometry/volume_tutorial/e/solid_geometry)  [Area, Volume and Surface Area](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-area-volume-surface-area/e/area--volume--and-surface-area) | [CCSS.Math.Content.HSG-GMD.A.3](http://www.corestandards.org/Math/Content/HSG/GMD/A/3) |
| Convert English/metric units | [Applying the Metric System](https://www.khanacademy.org/math/arithmetic/rates-and-ratios/unit_conversion/v/applying-the-metric-system)  [Conversion Between Metric Units](https://www.khanacademy.org/math/arithmetic/rates-and-ratios/metric-system-tutorial/v/conversion-between-metric-units)  [Converting Units of Length](https://www.khanacademy.org/math/arithmetic/rates-and-ratios/unit_conversion/v/converting-units-of-length) | [Units](https://www.khanacademy.org/math/arithmetic/rates-and-ratios/unit_conversion/e/units) | [CCSS.Math.Content.6.RP.A.3d](http://www.corestandards.org/Math/Content/6/RP/A/3/d) |
| Word Problems in Geometry | [Comparing Poster Area](https://www.khanacademy.org/math/arithmetic/measurement/rectangle-area-perimeter-word-pr/v/comparing-area) | [Area and Perimeter Word Problems](https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-measurement-topic/cc-4th-area-and-perimeter/e/area-and-perimeter-of-rectangles-word-problems) | [CCSS.Math.Content.HSG-MG.A.3](http://www.corestandards.org/Math/Content/HSG/MG/A/3) |
| **Statistics** | | | | |
| Calculate Mean, Median, and Mode | [Statistics Intro](https://www.khanacademy.org/math/probability/descriptive-statistics/central_tendency/v/statistics-intro--mean--median-and-mode)  [Example: Finding Mean, Median and Mode](https://www.khanacademy.org/math/probability/descriptive-statistics/central_tendency/v/mean-median-and-mode) | [Mean, Median and Mode](https://www.khanacademy.org/math/probability/descriptive-statistics/central_tendency/e/mean_median_and_mode)  [Exploring Mean and Median](https://www.khanacademy.org/math/probability/descriptive-statistics/central_tendency/e/exploring_mean_and_median) | [CCSS.Math.Content.HSS-ID.A.2](http://www.corestandards.org/Math/Content/HSS/ID/A/2) | [Mean, Median and Mode Application Problems](http://www.regentsprep.org/Regents/math/ALGEBRA/AD2/Pmeasure.htm)  [Open-Ended Mean Problem](http://nrich.maths.org/6345) |
| Mean/Average Word Problems | [Exploring Mean, Median and Mode](https://www.khanacademy.org/math/probability/descriptive-statistics/central_tendency/v/exploring-mean-and-median-module) | [Average Word Problems](https://www.khanacademy.org/math/probability/descriptive-statistics/central_tendency/e/average_word_problems) | [CCSS.Math.Content.HSS-ID.A.2](http://www.corestandards.org/Math/Content/HSS/ID/A/2) |
| Interpret Graphs and Charts | [Reading Bar Graphs](https://www.khanacademy.org/math/arithmetic/interpreting-data-topic/reading_data/v/reading-bar-graphs)  [Histograms](https://www.khanacademy.org/math/arithmetic/interpreting-data-topic/reading_data/v/histograms)  [Reading Line Graphs](https://www.khanacademy.org/math/arithmetic/interpreting-data-topic/reading_data/v/u08-l1-t2-we2-reading-line-graphs)  [Reading Pie Graphs (Circle Graphs)](https://www.khanacademy.org/math/arithmetic/interpreting-data-topic/reading_data/v/reading-pie-graphs--circle-graphs)  [Reading Pictographs](https://www.khanacademy.org/math/arithmetic/interpreting-data-topic/reading_data/v/reading-pictographs) | [Reading Bar Charts 1](https://www.khanacademy.org/math/arithmetic/applying-math-reasoning-topic/reading_data/e/reading_bar_charts_1)  [Reading Bar Charts 2](https://www.khanacademy.org/math/arithmetic/applying-math-reasoning-topic/reading_data/e/reading_bar_charts_2)  [Reading Stem and Leaf Plots](https://www.khanacademy.org/math/arithmetic/applying-math-reasoning-topic/reading_data/e/reading_stem_and_leaf_plots)  [Reading Pictographs 1](https://www.khanacademy.org/math/arithmetic/applying-math-reasoning-topic/reading_data/e/reading_pictographs_1)  [Reading Pictographs 2](https://www.khanacademy.org/math/arithmetic/applying-math-reasoning-topic/reading_data/e/reading_pictographs_2) | [CCSS.Math.Content.HSS-ID.A.1](http://www.corestandards.org/Math/Content/HSS/ID/A/1) |