

 **SUMMER 2018 ENTERING ALGEBRA 2 SKILL ASSIGNMENT**

**The following tables provide links to helpful video and practice support for skills included in the Entering Algebra 2 Summer Assignment. To access the Khan Academy webpage, click on the title of the video or skill set.**

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| **CURRICULUM TOPIC: OPERATIONS WITH FRACTIONS (summer assignment questions 1-6)** |
|  **Skill Support articles & Videos** | **Skill Set** |
| [Adding and subtracting 3 fractions (video)](https://www.khanacademy.org/math/arithmetic-home/arith-review-fractions/add-sub-fractions/v/adding-and-subtracting-multiple-fractions-with-unlike-denominators) | [Add and subtract fractions challenge](https://www.khanacademy.org/math/arithmetic-home/arith-review-fractions/add-sub-fractions/e/adding-and-subtracting-fractions-with-unlike-denominators) |
| [**Making Sense of Hairy Fractions (video)**](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-negative-numbers-multiply-and-divide/cc-7th-mult-div-fractions-2/v/making-sense-of-hairy-fractions) | [**Simplify Complex Fractions**](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-negative-numbers-multiply-and-divide/cc-7th-mult-div-fractions-2/e/complex-fractions) |
| [**Multiplying Negative and Positive Fractions (video)**](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-negative-numbers-multiply-and-divide/cc-7th-mult-div-neg-fractions/v/multiplying-negative-and-positive-fractions) | [**Multiplying Negative and Positive Fractions**](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-negative-numbers-multiply-and-divide/cc-7th-mult-div-neg-fractions/e/multiplying_fractions) |
| [**Dividing Negative Fractions (video)**](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-negative-numbers-multiply-and-divide/cc-7th-mult-div-neg-fractions/v/examples-of-dividing-negative-fractions) | [Dividing positive and negative fractions](https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-negative-numbers-multiply-and-divide/cc-7th-mult-div-neg-fractions/e/dividing_fractions_2) |
| [**Nested Fractions (video)**](https://www.khanacademy.org/math/algebra2/rational-expressions-equations-and-functions/nested-fractions/v/algebraic-expressions-with-fraction-division) | [Nested Fractions](https://www.khanacademy.org/math/algebra2/rational-expressions-equations-and-functions/nested-fractions/e/nested-fractions) |

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| **CURRICULUM TOPIC: SIMPLIFYING ALGEBRAIC EXPRESSIONS WITH EXPONENTS (summer assignment questions 7-10)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [**Exponent properties review (article)**](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/a/exponent-properties-review) |  |
| [Exponent properties with products (video)](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/v/exponent-properties-involving-products) | [**Multiply powers**](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/e/multiply-powers) |
| [Exponent properties with parentheses (video)](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/v/products-and-exponents-raised-to-an-exponent-properties) | [**Powers of powers**](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/e/powers-of-powers) |
| [Exponent properties with quotients (video)](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/v/exponent-properties-involving-quotients) | [**Divide powers**](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/e/divide-powers) |
| [Powers of products & quotients (structured practice)](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/e/powers-of-products-and-quotients-sp) |
| [Powers of products & quotients](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/e/powers-of-products-and-quotients-sp) |

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| **CURRICULUM TOPIC: RADICAL EXPRESSIONS (summer assignment questions 11,12)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Simplifying square roots (video)](https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals/alg1-simplify-square-roots/v/simplifying-square-roots-1) | [Simplify square roots](https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals/alg1-simplify-square-roots/e/simplifying_radicals) |

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| **CURRICULUM TOPIC: SIMPLIFYING ALGEBRAIC EXPRESSIONS (summer assignment questions 13-16, 31-34)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Adding polynomials (video)](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/adding-and-subtracting-polynomials/v/adding-and-subtracting-polynomials-1) | [Add polynomials (intro)](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/adding-and-subtracting-polynomials/e/adding_and_subtracting_polynomials) |
| [Subtracting polynomials (video)](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/adding-and-subtracting-polynomials/v/subtracting-polynomials) | [Subtract polynomials (intro)](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/adding-and-subtracting-polynomials/e/subtract-polynomials) |
| [Adding & subtracting multiple polynomials (video)](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/adding-and-subtracting-polynomials/v/adding-and-subtracting-polynomials-3)[Adding and subtracting polynomials review (video)](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/adding-and-subtracting-polynomials/a/adding-and-subtracting-polynomials-review) | [Add & subtract polynomials](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/adding-and-subtracting-polynomials/e/add---subtract-polynomials-challenge) |
| [Multiplying binomials](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/multiplying-binomials-2/v/multiplying-binomials) | [Multiplying binomials](https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/multiplying-binomials-2/e/multiply-binomials-coefficient) |

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| **CURRICULUM TOPIC: SOLVING LINEAR EQUATIONS (summer assignment questions 17-20)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Worked example: two-step equations (video)](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-two-steps-equations-intro/v/solving-equations-1)[Two-step equations review (article)](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-two-steps-equations-intro/a/two-step-equations-review) | [Two-step equations](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-two-steps-equations-intro/e/linear_equations_2) |
| [**Equations with variables on both sides: 20-7x=**6x-6 (video)](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-variables-on-both-sides/v/solving-equations-2) | [Equations with variables on both sides](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-variables-on-both-sides/e/linear_equations_3) |
| [Equation with variables on both sides: fractions (video)](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-variables-on-both-sides/v/solving-equations-with-the-distributive-property-2) | [Equations with variables on both sides: decimals & fractions](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-variables-on-both-sides/e/variables-on-both-sides-rational) |
| [Equations with parentheses (video)](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-equations-with-parentheses/v/solving-equations-with-the-distributive-property) | [Equations with parentheses](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-equations-with-parentheses/e/multistep_equations_with_distribution)[Equations with parentheses: decimals & fractions](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-equations-with-parentheses/e/multi-step-equations-rational) |
| [Multi-step equations review (article)](https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-equations-with-parentheses/a/multi-step-equations-review) |  |

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| **CURRICULUM TOPIC: LINEAR FUNCTIONS (summer assignment questions 21-30)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Graph from slope-intercept equation (video)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/graphing-slope-intercept-equations/v/graphing-a-line-in-slope-intercept-form)[Graphing slope-intercept form (article)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/graphing-slope-intercept-equations/a/graphing-slope-intercept-form)[Graphing lines from slope-intercept form review (article)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/graphing-slope-intercept-equations/a/graphing-lines-review) | [Graph from slope-intercept form](https://www.khanacademy.org/math/algebra/two-var-linear-equations/graphing-slope-intercept-equations/e/graph-from-slope-intercept-equation) |
| [Slope-intercept form review (article)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/writing-slope-intercept-equations/a/slope-intercept-form-review)[Slope-intercept equation from graph (video)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/writing-slope-intercept-equations/v/graphs-using-slope-intercept-form) | [Slope-intercept equation from graph](https://www.khanacademy.org/math/algebra/two-var-linear-equations/writing-slope-intercept-equations/e/slope-intercept-equation-from-graph) |
| [Intro to point-slope form (video)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/point-slope/v/idea-behind-point-slope-form)[Point-slope form review (article)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/point-slope/a/point-slope-form-review) | [**Point-Slope Form**](https://www.khanacademy.org/math/algebra/two-var-linear-equations/point-slope/e/converting_between_point_slope_and_slope_intercept) |
| [Writing slope-intercept equations (article)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/writing-slope-intercept-equations/a/writing-slope-intercept-equations) |  |
| [Slope-intercept equation from slope & point (video)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/writing-slope-intercept-equations/v/equation-of-a-line-1)[Slope-intercept equation from two points (video)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/writing-slope-intercept-equations/v/equation-of-a-line-3) | [Slope-intercept from two points](https://www.khanacademy.org/math/algebra/two-var-linear-equations/writing-slope-intercept-equations/e/slope-intercept-equation-from-two-points) |
| [Intro to point-slope form (video)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/point-slope/v/idea-behind-point-slope-form)[Point-slope form review (article)](https://www.khanacademy.org/math/algebra/two-var-linear-equations/point-slope/a/point-slope-form-review) | [Point-slope form](https://www.khanacademy.org/math/algebra/two-var-linear-equations/point-slope/e/converting_between_point_slope_and_slope_intercept) |

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| **CURRICULUM TOPIC: FACTORING (summer assignment questions 35-40)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Factoring: Greatest Common Factor (GCF) (video)](https://www.youtube.com/watch?v=JPYfGMeqzzk)[**Factoring Polynomials by Taking a common Factor (support article)**](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-polynomials-1-common-factors/a/taking-common-factors) | [**Factor polynomials: common factor**](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-polynomials-1-common-factors/e/factoring-polynomials)  |
| [Factoring polynomials: common binomial factor (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-polynomials-1-common-factors/v/factoring-a-common-binomial-factor) | [Factor polynomials: common factor](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-polynomials-1-common-factors/e/factoring-polynomials) |
| [Factoring quadratics as (x+a)(x+b) (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-1/v/factoring-simple-quadratic-expression)[Factoring quadratics as (x+a)(x+b) (example 2) (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-1/v/factoring-polynomials-1)[More examples of factoring quadratics as (x+a)(x+b) (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-1/v/factoring-quadratic-expressions) | [Factoring quadratics: leading coefficient = 1](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-1/a/factoring-quadratics-leading-coefficient-1)[Warmup: factoring quadratics intro](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-1/e/factor-quadratics-sp) |
| [Intro to grouping (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-2/v/factor-by-grouping-and-factoring-completely)[Factoring quadratics by grouping (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-2/v/factoring-trinomials-by-grouping-4)[Factoring by grouping (article)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-2/a/factoring-by-grouping) | [Factoring quadratics by grouping](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-2/e/factoring_polynomials_by_grouping_1) |
| [Difference of squares intro (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-diff-of-squares/v/difference-of-squares-intro)[Factoring quadratics: Difference of squares (article)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-diff-of-squares/a/factoring-quadratics-difference-of-squares) | [Practice: Difference of squares intro](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-diff-of-squares/e/factoring_difference_of_squares_1)[Factoring difference of squares: leading coefficient ≠ 1](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-diff-of-squares/v/factoring-to-produce-difference-of-squares)[Difference of squares](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-diff-of-squares/e/factoring_difference_of_squares_2) |
| [Perfect square factorization intro (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-perfect-squares/v/perfect-square-factorization-intro)[Factoring quadratics: Perfect squares (article)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-perfect-squares/a/factoring-quadratics-perfect-squares)[Factoring perfect squares (video)](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-perfect-squares/v/factoring-perfect-square-trinomials) | [Perfect squares intro](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-perfect-squares/e/intro-to-factoring-perfect-squares)[Perfect squares](https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-perfect-squares/e/factoring-perfect-squares) |

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| **CURRICULUM TOPIC: LINEAR FUNCTIONS (summer assignment questions 41-44)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Worked example: Evaluating functions from equation (video)](https://www.khanacademy.org/math/algebra/algebra-functions/evaluating-functions/v/understanding-function-notation-example-1) | [Evaluate functions](https://www.khanacademy.org/math/algebra/algebra-functions/evaluating-functions/e/functions_1) |

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| **CURRICULUM TOPIC: GRAPHING LINEAR INEQUALITIES (summer assignment questions 45,46)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Graphing two-variable inequalities (video)](https://www.khanacademy.org/math/algebra/two-variable-linear-inequalities/graphing-inequalities/v/graphing-linear-inequalities-in-two-variables-example-2) | [Graphs of inequalities](https://www.khanacademy.org/math/algebra/two-variable-linear-inequalities/graphing-inequalities/e/graphing_inequalities_2) |

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| **CURRICULUM TOPIC: SYSTEMS OF LINEAR EQUATIONS (summer assignment questions 47-53)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Testing a solution to a system of equations](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-intro-to-systems-of-equations/v/testing-a-solution-for-a-system-of-equations) |  |
| [Systems of equations with graphing: y=7/5x-5 & y=3/5x-1 (video)](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-intro-to-systems-of-equations/v/solving-systems-graphically)[Systems of equations with graphing: exact & approximate solutions (video)](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-intro-to-systems-of-equations/v/solving-systems-graphically-examples) | [Systems of equations with graphing](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-intro-to-systems-of-equations/e/graphing_systems_of_equations) |
| [Elimination method review (systems of linear equations) (article)](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-elimination-method-systems/a/elimination-method-review)[Systems of equations with elimination: x-4y=-18 & -x+3y=11 (video)](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-elimination-method-systems/v/simple-elimination-practice) | [Systems of equations with elimination](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-elimination-method-systems/e/systems_of_equations_with_elimination_0.5) |
| [Substitution method review (systems of equations)](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-solving-systems-with-substitution/a/substitution-method-review-systems-of-equations)[Systems of equations with substitution: -3x-4y=-2 & y=2x-5](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-solving-systems-with-substitution/v/practice-using-substitution-for-systems) | [Systems of equations with substitution](https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations/alg-basics-solving-systems-with-substitution/e/systems_of_equations_with_substitution) |

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| **CURRICULUM TOPIC: GRAPHING EXPONENTIAL FUNCTIONS (summer assignment questions 54,55)** |
| **Skill Support articles & Videos** | **Skill Set** |
| [Graphing exponential functions (video)](https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/graphs-of-exponential-functions/v/graphing-exponential-functions-interactive)[Exponential function graph (video)](https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/graphs-of-exponential-functions/v/graphing-exponential-functions-interactive) | [Graphs of exponential functions](https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/graphs-of-exponential-functions/e/graphs-of-exponential-functions) |