**7th GRADE KHAN ACADEMY LINKS**

Here is a set of Khan Academy activities related to the topics we are learning in class. If you are not sure what to practice, you can always find something here! Most sections have an instructional video followed by a practice set.

**The Number System**

1. Interpreting positive and negative numbers in real world situations

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-negative-numbers-add-and-subtract/cc-7th-add-negatives/v/adding-negative-numbers>

2. Finding distances between numbers on a number line

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-negative-numbers-add-and-subtract/cc-7th-add-negatives/v/number-line-3-exercise-example>

3. Fluently add and subtract rational numbers

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-fractions-decimals/cc-7th-add-sub-rational-numbers/v/adding-and-subtracting-a-decimal-percentage-and-fraction>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-fractions-decimals/cc-7th-add-sub-rational-numbers/e/adding_and_subtracting_rational_numbers>

4. Identify opposites

<https://www.khanacademy.org/math/arithmetic/arith-review-negative-numbers/arith-review-number-opposites/v/opposite-of-a-number>

<https://www.khanacademy.org/math/arithmetic/arith-review-negative-numbers/arith-review-number-opposites/e/number-opposites>

5. Fluently multiply and divide rational numbers

<https://www.khanacademy.org/math/in-in-class-7th-math-cbse/in-in-7th-rational-numbers/in-in-rational-nos-multiply-divide/v/in-in-rational-nos-multiplication>

<https://www.khanacademy.org/math/in-in-class-7th-math-cbse/in-in-7th-rational-numbers/in-in-rational-nos-multiply-divide/v/division-of-rational-numbers>

6. Converting rational numbers to decimals through the process of long division dividing the numerator by the denominator

<https://www.khanacademy.org/math/in-in-class-7th-math-cbse/in-in-7th-rational-numbers/in-in-7th-rational-nos-word-probs/e/multistep-equations-without-variables>

<https://www.khanacademy.org/math/arithmetic/arith-decimals/arith-review-decimals-to-fractions/v/converting-fractions-to-decimals-ex2>

<https://www.khanacademy.org/math/arithmetic/arith-decimals/arith-review-decimals-to-fractions/e/converting_fractions_to_decimals>

7. Differentiate between rational and irrational numbers.

<https://www.khanacademy.org/math/algebra/rational-and-irrational-numbers/alg-1-irrational-numbers/v/introduction-to-rational-and-irrational-numbers>

<https://www.khanacademy.org/math/algebra/rational-and-irrational-numbers/alg-1-irrational-numbers/v/recognizing-irrational-numbers>

<https://www.khanacademy.org/math/algebra/rational-and-irrational-numbers/alg-1-irrational-numbers/e/recognizing-rational-and-irrational-numbers>

8. Solve real world and mathematical problems involving rational numbers, including multi-step problems

<https://www.khanacademy.org/math/in-in-class-7th-math-cbse/in-in-7th-rational-numbers/in-in-7th-rational-nos-word-probs/v/multistep-word-problems-example-1>

<https://www.khanacademy.org/math/in-in-class-7th-math-cbse/in-in-7th-rational-numbers/in-in-7th-rational-nos-word-probs/v/multistep-word-problems-example-2>

<https://www.khanacademy.org/math/in-in-class-7th-math-cbse/in-in-7th-rational-numbers/in-in-7th-rational-nos-word-probs/v/rational-number-word-problem-example-1>

<https://www.khanacademy.org/math/in-in-class-7th-math-cbse/in-in-7th-rational-numbers/in-in-7th-rational-nos-word-probs/e/multistep-equations-without-variables>

**Ratios & Proportions**

1. Identify and compute unit rates

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-rates/v/introduction-to-rates>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-rates/v/finding-unit-rates>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-rates/e/rate_problems_0.5>

2. Solve for unit rates involving real world applications

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-rates/v/multiple-rates-word-problem>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-rates/e/rate_problems_2>

3. Compare two ratios to determine if they are proportional

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-proportional-rel/v/introduction-to-proportional-relationships>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-proportional-rel/e/analyzing-and-identifying-proportional-relationships>

4. Create a table of unit rate values for a proportional relationship

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-visualize-ratios/a/ratio-tables>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-visualize-ratios/v/solving-ratio-problems-with-tables-exercise>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-visualize-ratios/e/solving-ratio-problems-with-tables>

5. Graph a set of unit rate values for a proportional relationship on a coordinate grid

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-graphs-proportions/v/examples-interpreting-graphs-of-proportional-relationships>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-graphs-proportions/e/interpreting-graphs-of-proportional-relationships>

6. Define scale factor

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/v/scale-drawing-example-2>

7. Identify the constant rate of proportionality (unit rate) when given data in a table

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/constant-of-proportionality/e/constant-of-proportionality-from-graphs>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/constant-of-proportionality/e/constant-of-proportionality-from-equations>

8. Write equations given a proportional relationship from tables and graphs

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-equations-of-proportional-relationships/v/equations-of-proportional-relationships>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-equations-of-proportional-relationships/v/constructing-an-equation-for-a-proportional-relationship>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-equations-of-proportional-relationships/e/writing-proportional-equations>

9. Graph proportional relationship using (x,y) values from function table

<https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/cc-8th-graphing-prop-rel/v/graphing-proportional-relationships-example-2>

<https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/cc-8th-graphing-prop-rel/v/graphing-proportional-relationships-example-3>

<https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-linear-equations-functions/cc-8th-graphing-prop-rel/e/graphing-proportional-relationships>

10. Convert between fractions, decimals, and percent equivalents

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-fractions-decimals/cc-7th-fracs-to-decimals/v/decimals-and-fractions>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-fractions-decimals/cc-7th-fracs-to-decimals/v/converting-fractions-to-decimals-ex2>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-fractions-decimals/cc-7th-fracs-to-decimals/e/converting_fractions_to_decimals>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-decimal-conversions/v/representing-a-number-as-a-decimal-percent-and-fraction>

11. Solve problems about percent increase or decrease percent

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-word-problems/v/solving-percent-problems-2>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-word-problems/v/solving-percent-problems-3>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-word-problems/v/growing-by-a-percentage>

12. Use percents to solve problems involving tax, commission, and gratuity

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-word-problems/v/growing-by-a-percentage>

13. Use percent to solve simple interest, tax problems, markup and markdown problems

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-word-problems/e/discount_tax_and_tip_word_problems>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-word-problems/e/markup_and_commission_word_problems>

**Expressions & Equations**

1. Apply the commutative, distributive, and associative properties to solve problems.

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/v/factoring-algebraic-expressions>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/v/factoring-linear-binomials>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/e/factoring_linear_binomials>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/e/equiv-expressions-w-neg-and-dist>

2. Identify. simplify, expand, and combine like terms of linear expressions

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-manipulating-expressions/v/combining-like-terms>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-manipulating-expressions/e/combining_like_terms_1>

3. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-manipulating-expressions/v/combining-like-terms-and-the-distributive-property>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-manipulating-expressions/v/simplifying-expressions-involving-rational-numbers>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-manipulating-expressions/e/manipulating-linear-expressions-with-rational-coefficients>

4. Evaluate, simplify, and solve two-step equations.

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations-intro/v/why-we-do-the-same-thing-to-both-sides-two-step-equations>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations-intro/v/equations-2>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations-intro/v/solving-equations-1>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations-intro/e/linear_equations_2>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-8th-two-step-equations-dec-frac/v/two-step-equations-with-decimals-and-fractions>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-8th-two-step-equations-dec-frac/v/two-step-equations>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-8th-two-step-equations-dec-frac/v/mistakes-in-solving-equations>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-8th-two-step-equations-dec-frac/e/find-the-mistake-two-step-equations>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-linear-eq-word-probs/v/basic-linear-equation-word-problem>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-linear-eq-word-probs/e/linear-equation-world-problems-2>

5. Write and solve linear inequalities for situations.

 Graph solutions of inequalities on a number line and interpret solutions of inequalities from graphs.

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-inequalities/v/inequalities-using-multiplication-and-division>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-inequalities/v/one-step-inequalities-2>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-inequalities/e/one_step_inequalities>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-two-step-inequalities/v/solving-inequalities>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-two-step-inequalities/e/solving-2-step-inequalities>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-two-step-inequalities/v/interpreting-inequalities>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-two-step-inequalities/e/interpretting-solving-linear-inequalities>

**Geometry**

1. Calculate scale factor between corresponding lengths in similar objects

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/v/ratio-word-problem-exercise-example-2>

2. Calculate actual lengths of corresponding sides when given a scale factor

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/e/interpreting-scale-drawings>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/a/scale-drawing-word-problems>

3. Calculate area of actual shape when given scale drawing

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/v/scale-drawing-example-2>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-scale-drawings/e/relate-scale-drawings-to-area>

4. Know the formulas for the area and circumference of a circle and use them to solve problems

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-area-circumference/v/circles-radius-diameter-and-circumference>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-area-circumference/v/parts-of-a-circle>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-area-circumference/e/radius_diameter_and_circumference>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-area-circumference/v/area-of-a-circle>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-area-circumference/e/area_of_a_circle>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-geometry/cc-7th-area-circumference/e/area-and-circumference-of-parts-of-circles>

**Statistics & Probability**

1. Identify the correct population sector for taking a given sample population and use a sample to draw inferences about a population and make predictions from complied data

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/v/reasonable-samples>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/e/valid-claims>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/e/making-inferences-from-random-samples>

2. Visually compare the centers and spreads of distributions on a table, graph, dot plot and box plot.

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/v/comparing-swim-times-at-the-olympics>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/e/comparing-populations>

3. Use probability to predict outcomes of long-run or repeated/ larger events

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-basic-prob/v/basic-probability>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-basic-prob/v/simple-probability>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-basic-prob/e/probability_1>

4. Analyze data to calculate simple probabilities based on equally-likely outcomes.

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-basic-prob/v/experimental-probability>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-basic-prob/e/finding-probability>

5. Create a tree diagram for a compound event and use a tree diagram to calculate probabilities

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-compound-events/v/compound-sample-spaces>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-compound-events/v/probability-from-compound-sample-space>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-compound-events/e/compound-events>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-compound-events/v/tree-diagram-to-count-outcomes>

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-compound-events/e/fundamental-counting-principle>