

Simple Solutions

Standards-Based Mathematics 8

Topic Guide

<u>Topic</u>	<u>Lesson #</u>	<u>Standard</u>
Use Square Root and Cube Root Symbols to Represent Solutions to Equations; Evaluate Square Roots of Small Perfect Squares and Cube Roots of Small Perfect Cubes	3	8.EE.2
Verify Experimentally the Properties of Rotations, Reflections, and Translations.....	7	8.G.1
Know that Numbers that are not Rational are Called Irrational; Convert a Decimal Expansion Which Repeats into a Rational Number	11	8.NS.1
Use Rational Approximations of Irrational Numbers to Compare the Size of Irrational Numbers and Locate them on a Number Line.....	16	8.NS.2
Use Informal Arguments to Establish Facts about the Angle Sum and Exterior Angle of Triangles, About the Angles Created when Parallel Lines are Cut by a Transversal, and the Angle-Angle Criterion for Similarity of Triangles.....	20	8.G.5
Know and Apply the Properties of Integer Exponents to Generate Numerical Expressions	24	8.EE.1
Use Numbers Expressed in the Form of a Single Digit Times a Whole-Number Power of 10 to Estimate Very Large or Very Small Quantities	29	8.EE.3
Give Examples of Linear Equations in one Variable with One Solution, Infinitely Many Solutions, or No Solutions.....	33	8.EE.7
Understand that a Function is a Rule that Assigns to Each Input Exactly One Output	38	8.F.1
Know the Formulas for the Volumes of Cones, Cylinders, and Spheres and Use Them to Solve Real-World Problems.....	42	8.G.9
Perform Operations with Numbers Expressed in Scientific Notation	47	8.EE.4
Understand that a Two-Dimensional Figure is Congruent to Another if the Second can be Obtained from the First by a Sequence of Rotations, Reflections, and Translations.....	52	8.G.2
Graph Proportional Relationships, Interpreting the Unit Rate as the Slope of the Graph.....	57	8.EE.5
Derive the Equation $y = mx$ for a Line through the Origin and the Equation $y = mx + b$ for a Line Intercepting the Vertical Axis at b	62	8.EE.6
Solve Systems of Two Linear Equations in Two Variables Algebraically, and Estimate Solutions by Graphing the Equations	66	8.EE.8

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<u>Topic</u>	<u>Lesson #</u>	<u>Standard</u>
Describe the Effect of Dilations, Translations, Rotations, and Reflections on Two-Dimensional Figures Using Coordinates.....	70	8.G.3
Construct and Interpret Scatter Plots for Bivariate Measurement Data to Investigate Patterns of Association Between Two Quantities.	75	8.SP.1
Interpret the Equation $y = mx + b$ as Defining a Linear Function, Whose Graph is a Straight Line.....	78	8.F.3
Know that Straight Lines are Widely Used to Model Relationships between Two Quantitative Variables.....	81	8.SP.2
Construct a Function to Model a Linear Relationship Between Two Quantities.....	86	8.F.4
Compare Properties of Two Functions Each Represented in a Different Way	90	8.F.2
Describe Qualitatively the Functional Relationship Between Two Quantities by Analyzing a Graph... ..	95	8.F.5
Explain a Proof of the Pythagorean Theorem and its Converse	100	8.G.6
Apply the Pythagorean Theorem to Determine Unknown Side Lengths in Right Triangles in Real-World Problems in Two and Three Dimensions	109	8.G.7
Apply the Pythagorean Theorem to Find the Distance Between Two Points in a Coordinate System.....	113	8.G.8
Understand that a Two-Dimensional Figure is Similar to Another if the Second can be Obtained from the First by a Sequence of Rotations, Reflections, Translations, and Dilations	116	8.G.4
Use the Equation of a Linear Model to Solve Problems in the Context of Bivariate Measurement Data, Interpreting the Slope and Intercept	120	8.SP.3
Construct and Interpret a Two-Way Table Summarizing Data on Two Categorical Variables Collected from the Same Subjects	124	8.SP.4
Solve Real-World Problems Leading to Two Linear Equations in Two Variables	132	8.EE.8