

7th Extended Math Course SOL & Topic List and Student Self-Tracker

I'm GOOD on this one	I'm OK on this I'll review	I struggle on this one I'll FOCUS here	<h2 style="text-align: center;">SOL Objective Codes and Specific Skills</h2> <p style="text-align: center;">- Use the columns on the left to assess your proficiency with each topic (<i>Italicized text with * - SOL Objective we've already covered this year before the COVID-19 School closure</i>)</p>
			8.3 Square Roots *
			<i>I can identify perfect squares from 0 to 400.</i>
			<i>I can determine the positive and negative square root of given perfect square from 1-400.</i>
			<i>I can identify the two consecutive integers between which a non-perfect square root lies.</i>
			<i>I can estimate where a non-perfect square root falls on a number line.</i>
			8.2 Real Numbers *
			<i>I can describe the subsets of real numbers, inc. examples/non examples.</i>
			<i>I can illustrate the relationships of numbers in the real number system using representations.</i>
			<i>I can classify a number as a member of a subset(s) and explain why.</i>
			<i>I can generalize results of addition and multiplication problems.</i>
			8.1 Compare and Ordering *
			<i>I can convert fractions to decimals and vice versa.</i>
			<i>I can compare and order fractions and decimals.</i>
			<i>I can convert numbers between scientific notation and standard forms.</i>
			<i>I can order up to five rational numbers.</i>
			8.14a Evaluating Algebraic Expressions *
			<i>I can use the order of operations to simplify an expression.</i>
			<i>I can substitute values for variables and evaluate the expression using the order of operations.</i>
			<i>I can model algebraic expressions using concrete materials and/or pictorial representations.</i>
			8.9 Pythagorean Theorem *
			<i>I can solve practical problems involving right triangles by using the Pythagorean Theorem.</i>
			<i>I can determine the measure of a side of a right triangle when given the measures of the other two sides.</i>
			<i>I can determine whether a triangle is or is not a right triangle when given the measures of</i>
			8.10 Composite Shapes *
			<i>I can find the area and perimeter of plane shapes (triangles, rectangles, squares, trapezoids, parallelograms, and circle/semicircles)</i>
			<i>I can subdivide a composite figure into plane figures</i>
			<i>I can determine the area of a composite shape.</i>
			<i>I can use the attributes of the subdivisions to determine the perimeter of a composite shape.</i>
			<i>I can apply perimeter, circumference, and area formulas to solve practical problems involving composite shapes.</i>

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			8.6 3D Figures *
			<i>I can distinguish between situations that are applications of surface area and those that are volume.</i>
			<i>I can determine the surface area of cones using concrete objects, nets, diagrams and formulas.</i>
			<i>I can determine the surface area of square based pyramids using concrete objects, nets, diagrams and formulas.</i>
			<i>I can determine the volume of cones using concrete objects, diagrams and formulas.</i>
			<i>I can determine the volume of square based pyramids using concrete objects, diagrams and formulas.</i>
			<i>I can solve practical problems involving volume and surface area of cones and square-based pyramids.</i>
			<i>I can find the surface area and volume of a rectangular prism.</i>
			<i>I can describe how the volume of a rectangular prism is affected when one measured attribute is multiplied by a factor of $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, 2, 3, or 4.</i>
			<i>I can describe how the surface area of a rectangular prism is affected when one measured attribute is multiplied by a factor of $\frac{1}{2}$ or 2.</i>
			8.14b Simplifying Expressions *
			<i>I can simplify algebraic expression in one variable (combining like terms and distributive property).</i>
			8.17 Equations *
			<i>I can represent multistep linear equations using concrete and pictorial representations.</i>
			<i>I can solve multistep linear equations using concrete and pictorial representations.</i>
			<i>I can apply properties to justify the steps to solving a multistep equation.</i>
			<i>I can write verbal expressions and sentences as algebraic expressions and equations.</i>
			<i>I can write algebraic expressions and equations as verbal expressions and sentences.</i>
			<i>I can solve practical problems that require the solution to a multistep equation.</i>
			<i>I can confirm algebraic solutions to linear equations.</i>
			8.18 Inequalities *
			<i>I can apply properties of real numbers to solve multistep inequalities.</i>
			<i>I can solve multistep inequalities.</i>
			<i>I can graph solutions to multistep inequalities on a number line.</i>
			<i>I can write verbal expressions and sentences as algebraic expressions and inequalities.</i>
			<i>I can write algebraic expressions and inequalities as verbal expressions and sentences.</i>
			<i>I can solve practical problems that require the solution to a multistep inequality.</i>
			<i>I can identify a numerical value(s) that is part of the solution set of a given inequality.</i>

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			8.4 Consumer Math & Proportional Reasoning *
			<i>I can set up a proportion (equation or ratio table)</i>
			<i>I can solve practical problems that involve proportional reasoning with rational numbers.</i>
			<i>I can solve a proportion to find a missing value.</i>
			<i>I can apply proportional reasoning to convert units of measure between US customary and metric given a conversion factor.</i>
			<i>I can apply proportional reasoning to solve practical problems, inc. scale drawings.</i>
			<i>I can find 10% of any whole number.</i>
			<i>I can use 10% as a benchmark to compute 5%, 15%, or 20% of a given whole number.</i>
			<i>I can use 10% as a benchmark to compute 5%, 15%, or 20% in a practical situation such as tip, tax, and discount.</i>
			<i>I can compute sales tax or tip and the resulting total.</i>
			<i>I can compute discount or markup and the resulting sale price.</i>
			<i>I can compute percent increase or decrease seen in practical problems.</i>
			<i>I can compute simple interest and the new balance given principal, interest rate, and time.</i>
			<i>I can reconcile an account balance of at most five transactions.</i>
			7.5 Similar Figures *
			<i>I can identify corresponding sides & corresponding congruent angles in similar quadrilaterals and triangles.</i>
			<i>I can write a similarity statement using proper symbols given two similar quadrilaterals or triangles.</i>
			<i>I can write proportions to express the relationship between the length of corresponding sides of similar quadrilaterals and triangles.</i>
			<i>I can solve a proportion to determine a missing side length of a similar quadrilateral or triangle.</i>
			<i>I can determine unknown angle measures in a similar quadrilateral or triangle given some angle measures.</i>
			7.10. Linear Functions *
			<i>I can represent a practical proportional relationship using a table, graph, and equation.</i>
			<i>I can make connections between and among representations of a proportional relationship between verbal descriptions, tables, equations, and graphs.</i>
			<i>I can determine the slope, m, as a rate of change in a proportional relationship between two quantities from a verbal description or a practical problem.</i>
			<i>I can determine the rate of change (slope) when given a table of values with a proportional relationship.</i>

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			7.10. Linear Functions (continued) *
			<i>I can write an equation in the form $y = mx$ to represent a proportional relationship given a table, graph, or practical situation.</i>
			<i>I can describe how the rate of change (slope) affects the parent graph.</i>
			<i>I can graph a line representing a proportional relationship when given the equation of the line in the form $y = mx$.</i>
			<i>I can graph a line representing a proportional relationship when given an ordered pair on the line and the slope.</i>
			7.10cde: FUNCTIONS: Additive Relationships (Partial)
			<i>I can represent a practical additive relationship using a table, graph, and equation.</i>
			<i>I can make connections between and among representations of an additive relationship between verbal descriptions, tables, equations, and graphs.</i>
			<i>I can determine the y-intercept, b, in an additive relationship between two quantities when given a verbal description or practical problem.</i>
			<i>I can determine the y-intercept, b, when given a table of values with an additive relationship.</i>
			<i>I can write an equation in the form $y = x + b$, to represent an additive relationship given a table, graph, or practical situation.</i>
			<i>I can describe how the y-intercept affects the parent graph.</i>
			<i>I can graph a line representing an additive relationship given the equation in the form $y = x + b$ with a slope of 1.</i>
			<i>I can graph a line representing an additive relationship when given an ordered pair on the line and the y-intercept.</i>
			7.10e: LINEAR FUNCTIONS CONNECTIONS
			<i>I can represent a practical relationship using a table, graph, and equation.</i>
			<i>I can make connections between and among representations of a linear relationship between verbal descriptions, tables, equations, and graphs.</i>
			<i>I can determine if a linear relationship is an additive or proportional relationship.</i>
			8.15 Relations, Functions, Domain, Range (- Partial)
			<i>I can determine whether a relation is a function using a set of ordered pairs or graph.</i>
			<i>I can identify the domain (inputs) from a set of ordered pairs, table, or graph.</i>
			<i>I can identify the range (outputs) from a set of ordered pairs, table, or graph.</i>

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			8.16 Functions (- Partial)
			<i>I can recognize and describe a line as having positive, negative, or zero slope. *</i>
			Given a table of values, I can identify the slope and y-intercept.
			Given a function equation, I can identify the slope and y-intercept.
			Given a graph, I can identify the slope and y-intercept.
			<i>I can identify the dependent and independent variable in a practical situation.</i>
			<i>Given the equation, I can graph the function. *</i>
			<i>I can write the equation of a function given the slope and y-intercept. *</i>
			<i>I can write the equation of a function given a practical situation. *</i>
			<i>I can make connections among multiple representations (graph, table, equation, and description/WP) *</i>

NOTE: The SOL objectives listed above were covered prior to the school closure due to the COVID-19 (coronavirus) issue.

We were in the midst of working on SOL 7.10, 8.15, and 8.16 (Linear Functions). I will provide online resources to help students reach proficiency in this objective.

OTHER FUNDAMENTAL SKILLS I NEED TO WORK ON (ex. Place value, cross-multiplying, integer operations, fraction operations, decimal operations, rounding numbers, etc)
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A list of topics that are part of the 7th Extended course that we did not cover before the forced break is on the following pages.



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The objectives below were scheduled to be covered before the end of the year and prior to SOL testing; however, we did not begin working on these topics before schools were closed. Please stay tuned and be on the lookout for plans to address these topics.

			8.5: Angles
			I can identify and describe relationships between pairs of angles that are vertical, adjacent, supplementary, and complementary.
			I can use relationships among angles to solve practical problems to find unknown angles.
			7.7: Transformations
			Given a preimage, I can identify the coordinates of the image of a right triangle or rectangle after it has been translated.
			Given a preimage, I can identify the coordinates of the image of a right triangle or rectangle after it has been reflected over the x- or y-axis.
			Given a preimage, I can identify the coordinates of the image of a right triangle or rectangle after it has been translated and then reflected over the x- or y-axis OR reflected and then translated.
			I can sketch the images of a right triangle or rectangle that has been translated.
			I can sketch the images of a right triangle or rectangle that has been reflected over the x- or y-axis.
			I can sketch the images of a right triangle or rectangle after it has been translated and then reflected over the x- or y-axis OR reflected and then translated.
			8.7: Transformations
			I can sketch the images of a right triangle or rectangle that has been dilated
			I can sketch the images of a polygon that has been translated and reflected over the x- or y-axis OR vica versa.
			8.8 3D Models
			I can construct 3D models given the top, side, and front view.
			I can identify the 3D model given a 2D perspective.
			I can identify the 2D perspective of the top / side / front given the 3D model.

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			7.8: Probability
			I can determine the theoretical probability of an event.
			I can determine the experimental probability of an event.
			I can describe the changes in experimental probability as the number of trials increases.
			I can sketch the images of a right triangle or rectangle that has been reflected over the x- or y-axis.
			I can sketch the images of a right triangle or rectangle after it has been translated and then reflected over the x- or y-axis OR reflected and then translated.
			I can investigate and describe the difference between the probability of an event through an experiment versus the theoretical probability of the same event.
			8.11: Probability
			I can determine whether two events are independent or dependent.
			I can compare and contrast the probability of independent and dependent events.
			I can determine the probability of two independent events.
			I can determine the probability of two dependent events.
			8.13. Scatterplots (DATA DISPLAYS AND ANALYSIS)
			I can collect, organize and represent a data set of no more than 20 items, using scatterplots.
			I can make observations about a set of data points in a scatterplot have a positive linear relationship, negative linear relationship, or no relationship.
			I can estimate the line of best fit with a drawing for data represented in a scatterplot.
			8.12 Box Plots (DATA DISPLAYS AND ANALYSIS)
			I can collect and display a numeric data set of no more than 20 items, using box plots.
			I can make observations and inferences about data represented in a box plot.
			Given data represented in a box plot, I can identify and describe the lower extreme, upper extreme, median, upper quartile, lower quartile, range, and interquartile range.
			I can compare and analyze two data sets represented in box plots.