

## Northpoint Horizons

### *Math Elevations*<sup>™</sup> Correlated to the Nevada State Mathematics Content Standards

Grade 7

This document provides a sampling of the extensive math directives offered throughout the *Math Elevations* program that meet the **Nevada** Mathematics Content Standards.

<b>Nevada Essential Knowledge and Skills (Grade 7)</b>	<b>Math Elevations Level G (Grade 7) Teacher's Guide Examples/Lessons</b>
<p>1.7.1 Identify and use place value in mathematical and practical situations.</p> <p>Write, identify, and use powers of 10 from <math>10^{-3}</math> through <math>10^6</math>.</p>	<p>1.1 Decimal Place Value, pp. 18–21 1.2 Exponents, pp. 22–24 1.4 Scientific Notation, pp. 28–30</p>
<p>1.7.2 Translate among fractions, decimals, and percents, including fractional percents.</p>	<p>1.6 Greatest Common Factor, pp. 34–36 1.7 Least Common Multiple, pp. 37–39 2.8 Fractions and Decimals, pp. 68–71 5.5 Fractions, Decimals, and Percents, pp. 141–143</p>
<p>1.7.3 Compare and order a combination of rational numbers, including fractions, decimals, percents, and integers in mathematical and practical situations.</p>	<p>1.8 Fractions and Mixed Numbers, pp. 40–43 2.8 Fractions and Decimals, pp. 68–71 5.5 Fractions, Decimals, and Percents, pp. 141–143</p>
<p>1.7.5 Identify absolute values of integers.</p>	<p>3.4 Absolute Value, pp. 83–85</p>
<p>1.7.6 Generate a reasonable estimate for a computation using a variety of methods.</p> <p>Select and round to the appropriate significant digit.</p>	<p>1.1 Decimal Place Value, pp. 18–21 2.1, 2.2, 2.3, 2.4, Operations with fractions; estimation embedded in lessons, pp. 46–57. See Lesson 2.3 for one example. 2.5 Adding and Subtracting Decimals, pp. 58–60 2.6 Multiplying Decimals, pp. 61–63</p>
<p>1.7.7 Calculate with integers and other rational numbers to solve mathematical and practical situations.</p>	<p>3.1 Introduction to Integers, pp. 74–76 3.2 Adding Integers, pp. 77–79</p>

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Use order of operations to evaluate expressions and solve one-step equations (containing rational numbers).	3.3 Subtraction Integers, pp. 80–82 3.5 Multiplying Integers, pp. 86–88 3.6 Dividing Integers, pp. 89–91 4.1 Order Of Operations, pp. 100–102
1.7.8 Identify and apply the distributive, commutative, and associative properties of rational numbers to solve problems.	3.7 Commutative and Associative Properties, pp. 92–94 3.8 Distributive Property, pp. 95–97
2.7.1 Use and create tables, charts, and graphs to extend a pattern in order to describe a linear rule, including integer values.	4.4 Graphing Functions, pp. 109–111
2.7.2 Evaluate formulas and algebraic expressions for given integer values.  Solve and graphically represent equations and inequalities in one variable with integer solutions.	4.2 Evaluating Algebraic Expressions, pp. 103–105 4.3 Writing and Evaluating Expressions, pp. 106–108 4.6 Solving One-Step Equations Using Addition and Subtraction, pp. 115–117 4.7 Solving One-Step Equations Using Multiplication and Division, pp. 118–120
2.7.3 Simplify algebraic expressions by combining like terms.	4.5 Simplifying Expressions, pp. 112–114
2.7.4 Generate and graph a set of ordered pairs to represent a linear equation.	4.4 Graphing Functions, pp. 109–111 4.8 Solving and Graphing Inequalities, pp. 121–123
2.7.5 Identify linear equations and inequalities.  Model and solve equations using concrete and visual representations.	4.4 Graphing Functions, pp. 109–111 4.8 Solving and Graphing Inequalities, pp. 121–123
3.7.1 Estimate and compare corresponding units of measure for area and volume/capacity between customary and metric systems.	7.2 Area of Parallelograms and Triangles, pp. 187–190 7.3 Irregular Figures, pp. 191–193 7.5 Area of a Circle, pp. 197–199 7.8 Volume of a Prism, pp. 206–208
3.7.2 Given a measurement, identify the greatest possible error.	

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3.7.3 Select, model, and apply formulas to find the volume and surface area of solid figures.	7.6 Surface Area of a Prism, pp. 200–202 7.7 Surface Area of a Cylinder, pp. 203–205 7.8 Volume of a Prism, pp. 206–208
3.7.4 Calculate simple interest in monetary problems.	5.6 Percent of a Number, pp. 144–146
3.7.5 Write and apply proportions to solve mathematical and practical problems involving measurement and monetary conversions.	5.1 Ratios, pp. 128–131 5.2 Rates, pp. 132–134 5.3 Writing and Solving Proportions, pp. 135–137
3.7.6 Use elapsed time to solve practical problems.	
4.7.1 Identify, classify, compare, and draw regular and irregular polygons.  Find and verify the sum of the measures of interior angles of triangles and quadrilaterals.	6.1 Angles, pp. 156–159 6.2 Triangles, pp. 160–162 6.3 Polygons, pp. 163–165 6.4 Congruent Polygons, pp. 166–168 6.5 Similar Polygons, pp. 169–171
4.7.2 Make scale drawings using ratios and proportions.	5.4 Scale Drawings and Models, pp. 138–140
4.7.3 Demonstrate translation, reflection, and rotation using coordinate geometry and models.  Describe the location of the original figure and its transformation on a coordinate plane.	6.6 Translations in the Coordinate Plane, pp. 172–174 6.7 Reflections and Rotations in the Coordinate Plane, pp. 175–178
4.7.4 Make a model of a three-dimensional figure from a two-dimensional drawing.  Make a two-dimensional drawing of a three-dimensional figure.	6.8 Solid Figures, pp. 179–181
4.7.5 Determine slope of a line, midpoint of a segment, and the horizontal and vertical distance between two points using coordinate geometry.	<i>Level H:</i> 5.8, Slope, pp. 154–157
4.7.6 Describe the geometric relationships of parallel lines, perpendicular lines, triangles, quadrilaterals and bisectors.	6.1 Angles, pp. 156–159 6.2 Triangles, pp. 160–162 6.3 Polygons, pp. 163–165 6.4 Congruent Polygons, pp. 166–168

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	6.5 Similar Polygons, pp. 169–171
4.7.7 Model the Pythagorean Theorem and solve for the hypotenuse.	7.1 Pythagorean Theorem, pp. 184–186
4.7.8 Construct and identify congruent angles, parallel lines, and perpendicular lines.	6.1 Angles, pp. 156–159 6.2 Triangles, pp. 160–162 6.3 Polygons, pp. 163–165 6.4 Congruent Polygons, pp. 166–168
4.7.9 Make and test conjectures to explain observed mathematical relationships and to develop logical arguments to justify conclusions.	Embedded: "What is your reasoning?" "Explain how you found. . ." "Write a statement explaining your result." "How does this knowledge help you?" "Describe the error. . ." See Lesson 6.5, Challenge Question, pp. 169–171, for one example.
5.7.1 Formulate questions that guide the collection of data.  Organize, display, and read data using the appropriate graphical representations (with and without technology).	8.7 Bar Graphs and Line Graphs, pp. 233–236 8.8 Circle Graphs, pp. 237–239
5.7.2 Interpret graphical representations of data to describe patterns, trends, and data distribution.	8.7, 8.8 Embedded "What can you conclude? What would you expect the trend to be. . .", Bar Graphs and Line Graphs and Circle Graphs, pp. 233–239
5.7.3 Analyze the effect a change of scale will have on statistical charts and graphs.	8.7 Bar Graphs and Line Graphs, pp. 233–236 8.8 Circle Graphs, pp. 237–239
5.7.4 Find the number of permutations possible for an event in mathematical and practical situations.	8.2 Permutations, pp. 215–217
5.7.5 Find the theoretical probability of an event using different counting methods including sample spaces and compare that probability with experimental results.  Represent the probability of an event as a number between 0 and 1.	8.1 Possible Outcomes, pp. 212–214 8.2 Permutations, pp. 215–217 8.3 Possible Outcomes, pp. 218–220 8.4 Disjoint, Overlapping, and Complementary Events, pp. 221–224 8.5 Dependent and Independent Events, pp. 225–228

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5.7.6 Interpolate and extrapolate from data to make predictions for a given set of data.	Embedded in Unit 8: "Based on the trend the graph shows, what can you conclude?" "Explain what you would expect the trend to be." "How would the mean value change if . . ." See Lesson 8.7, pp. 233–236, for one example.