



# IXL Skill Alignment

Course 2 Advanced alignment for EdGems Math



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# Unit 1

## Equations

Textbook section	IXL skills
<b>1.1:</b> Solving One and Two-step Equations	<ol style="list-style-type: none"><li>1. Solve one-step equations WKM</li><li>2. Solve two-step equations QEB</li><li>3. Solve equations: word problems D2Y</li></ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"><li>• Write an equation from words N2T</li><li>• Which <math>x</math> satisfies an equation? DJS</li></ul>
<b>1.2:</b> Solving Multi-Step Equations	<ol style="list-style-type: none"><li>1. Solve multi-step equations ZDD</li><li>2. Solve equations involving like terms VSW</li><li>3. Solve equations with variables on both sides FC9</li></ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"><li>• Solve equations: complete the solution 66R</li></ul>
<b>1.3:</b> Solutions to Linear Equations	<ol style="list-style-type: none"><li>1. Find the number of solutions HQN</li><li>2. Create equations with no solutions or infinitely many solutions CRA</li></ol>
<b>1.4:</b> Linear Inequalities	<ol style="list-style-type: none"><li>1. Solutions to inequalities 8BA</li><li>2. Write inequalities from number lines JNL</li><li>3. Solve and graph inequalities NDQ</li></ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"><li>• One-step inequalities: word problems 6HD</li></ul>
<b>1.5:</b> Square Roots & Cube Roots	<ol style="list-style-type: none"><li>1. Square roots of perfect squares WRT</li><li>2. Cube roots of positive perfect cubes BH5</li><li>3. Estimate square roots AU2</li></ol>
<b>1.6:</b> Solving Equations with Exponents	<ol style="list-style-type: none"><li>1. Solve equations using square roots XBY</li><li>2. Solve equations using cube roots BWL</li></ol>

*Also consider*

- Positive and negative square roots K8G

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**1.7: Simplifying Roots**

1. Prime factorization 46F
  2. Simplify square roots MVW
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## Unit 2

### The Pythagorean Theorem

Textbook section	IXL skills
<b>2.1:</b> The Pythagorean Theorem	<ol style="list-style-type: none"><li>1. Pythagorean theorem: find the length of the hypotenuse LDL</li><li>2. Pythagorean theorem: find the missing leg length ME7</li><li>3. Converse of the Pythagorean theorem: is it a right triangle? JVX</li></ol>
<b>2.2:</b> Applying the Pythagorean Theorem	<ol style="list-style-type: none"><li>1. Pythagorean theorem: word problems U5U</li></ol>
<b>2.3:</b> Distance on the Coordinate Plane	<ol style="list-style-type: none"><li>1. Find the distance between two points 7SN</li></ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"><li>• Pythagorean theorem: find the perimeter R53</li></ul>

# Unit 3

## Proportional Relationships and Slope

Textbook section	IXL skills
<b>3.1:</b> Understanding Functions	<ol style="list-style-type: none"><li>1. Domain and range of functions ESM</li><li>2. Identify functions VCT</li><li>3. Identify functions: graphs LUT</li></ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"><li>• Complete a table for a two-variable relationship 2LU</li></ul>
<b>3.2:</b> Proportional Relationships	<ol style="list-style-type: none"><li>1. Identify proportional relationships EAB</li><li>2. Write equations for proportional relationships from tables 6GU</li><li>3. Write equations for proportional relationships from graphs JKH</li></ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"><li>• Interpret graphs of proportional relationships RMH</li></ul>
<b>3.3:</b> Calculating Slope from Graphs	<ol style="list-style-type: none"><li>1. Find the slope from a graph YH9</li><li>2. Graph a line using slope CHR</li></ol>
<b>3.4:</b> The Slope Formula	<ol style="list-style-type: none"><li>1. Find the slope from two points VZG</li><li>2. Constant rate of change TWW</li></ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"><li>• Find a missing coordinate using slope NR2</li></ul>

# Unit 4

## Functions

Textbook section	IXL skills
<b>4.1:</b> Graphing Using Slope-Intercept Form	<ol style="list-style-type: none"> <li>1. Slope-intercept form: find the slope and y-intercept PZE</li> <li>2. Graph a line from an equation in slope-intercept form UKK</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Write linear functions: word problems ZRF</li> </ul>
<b>4.2:</b> Writing Linear Equations for Graphs	<ol style="list-style-type: none"> <li>1. Write a linear function 78T</li> <li>2. Interpret a graph: word problems 2V5</li> </ol>
<b>4.3:</b> Writing Linear Equations from Key Information	<ol style="list-style-type: none"> <li>1. Write a linear equation from a slope and y-intercept AGK</li> <li>2. Write a linear equation from a slope and a point W5A</li> <li>3. Write a linear equation from two points LVH</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Write a linear function from a table BLJ</li> </ul>
<b>4.4:</b> Linear Equations in Other Forms	<ol style="list-style-type: none"> <li>1. Convert a linear equation to slope-intercept form A2R</li> <li>2. Graph a line from an equation in standard form FPU</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Graph a line from an equation in point-slope form UVR</li> </ul>
<b>4.5:</b> Introduction to Non-Linear Functions	<ol style="list-style-type: none"> <li>1. Identify linear and nonlinear functions NTS</li> <li>2. Identify linear and nonlinear functions: tables 46G</li> </ol>
<b>4.6:</b> Interpreting Graphs of Functions	

# Unit 5

## Systems of Equations

Textbook section	IXL skills
<b>5.1:</b> Parallel, Intersecting, or the Same Line	<ol style="list-style-type: none"> <li>1. Find the number of solutions to a system of equations by graphing 7JH</li> <li>2. Find the number of solutions to a system of equations X55</li> </ol>
<b>5.2:</b> Solving Systems by Graphing	<ol style="list-style-type: none"> <li>1. Is <math>(x, y)</math> a solution to the system of equations? XNR</li> <li>2. Solve a system of equations by graphing V56</li> <li>3. Solve a system of equations by graphing: word problems EV7</li> </ol>
<b>5.3:</b> Solving Systems by Substitution	<ol style="list-style-type: none"> <li>1. Solve a system of equations using substitution HAX</li> <li>2. Solve a system of equations using substitution: word problems L2K</li> </ol>
<b>5.4:</b> Solving Systems using Elimination	<ol style="list-style-type: none"> <li>1. Solve a system of equations using elimination CH8</li> <li>2. Solve a system of equations using elimination: word problems LBK</li> </ol>
<b>5.5:</b> Applications of Systems of Equations	<ol style="list-style-type: none"> <li>1. Solve a system of equations using any method: word problems 9AT</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Solve a system of equations using any method WFG</li> </ul>
<b>5.6:</b> Converting Repeating Decimals to Fractions	<ol style="list-style-type: none"> <li>1. Write a repeating decimal as a fraction W49</li> </ol>

# Unit 6

## Two-Dimensional Geometry

Textbook section	IXL skills
<b>6.1:</b> Complementary & Supplementary Angles	<ol style="list-style-type: none"> <li>1. Identify complementary and supplementary angles <a href="#">XA6</a></li> <li>2. Find measures of complementary and supplementary angles <a href="#">JL9</a></li> </ol>
<b>6.2:</b> Vertical Angles and Adjacent Angles	<ol style="list-style-type: none"> <li>1. Identify vertical, adjacent, and congruent angles <a href="#">BCU</a></li> <li>2. Find measures of vertical and adjacent angles <a href="#">2F6</a></li> </ol>
<b>6.3:</b> Drawing Triangles with Given Conditions	<ol style="list-style-type: none"> <li>1. Triangle inequality <a href="#">MJ8</a></li> </ol>
<b>6.4:</b> Areas of Polygons	<ol style="list-style-type: none"> <li>1. Area of rectangles and parallelograms <a href="#">62H</a></li> <li>2. Area of triangles and trapezoids <a href="#">ENE</a></li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Area and perimeter: word problems <a href="#">JFR</a></li> </ul>
<b>6.5:</b> Circumference and Pi	<ol style="list-style-type: none"> <li>1. Parts of a circle <a href="#">2VL</a></li> <li>2. Circumference of circles <a href="#">KS7</a></li> <li>3. Central angles of circles <a href="#">CD9</a></li> </ol>
<b>6.6:</b> Area of a Circle	<ol style="list-style-type: none"> <li>1. Area of circles <a href="#">YA8</a></li> <li>2. Area of sectors <a href="#">7ZX</a></li> <li>3. Circles: word problems <a href="#">P56</a></li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Semicircles: calculate area, perimeter, radius, and diameter <a href="#">SMW</a></li> <li>• Quarter circles: calculate area, perimeter, and radius <a href="#">WK8</a></li> </ul>
<b>6.7:</b> Composite Figures	<ol style="list-style-type: none"> <li>1. Area of compound figures with triangles, semicircles, and quarter circles <a href="#">N97</a></li> <li>2. Area between two shapes <a href="#">RKC</a></li> </ol>



**6.8:** Scale Drawings

1. Scale drawings: word problems 84H
2. Scale drawings: scale factor word problems KCM

*Also consider*

- Perimeter and area: changes in scale ZC6
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# Unit 7

## Parallel Lines, Transversals, & Triangles

Textbook section	IXL skills
<b>7.1:</b> Alternate Exterior and Interior Angles	<ol style="list-style-type: none"><li>1. Transversals of parallel lines: name angle pairs JQV</li><li>2. Find angle measures: supplementary, vertical, and alternate interior angles WUT</li></ol>
<b>7.2:</b> Corresponding and Same-Side Interior	<ol style="list-style-type: none"><li>1. Identify corresponding and consecutive interior angles ZMM</li></ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"><li>• Transversals of parallel lines: find angle measures CG9</li></ul>
<b>7.3:</b> Angle Sum of a Triangle	<ol style="list-style-type: none"><li>1. Classify triangles N5Z</li><li>2. Find missing angles in triangles 4U6</li><li>3. Triangle Angle-Sum Theorem 9XQ</li></ol>
<b>7.4:</b> Congruent and Similar Triangles	<ol style="list-style-type: none"><li>1. Side lengths and angle measures of similar triangles XVP</li><li>2. Identify similar triangles D8K</li></ol>
<b>7.5:</b> Angle Relationships	<ol style="list-style-type: none"><li>1. Exterior Angle Theorem E2L</li><li>2. Find missing side lengths in proportional triangles WNW</li></ol>

# Unit 8

## Transformations

Textbook section	IXL skills
<b>8.1:</b> Reflections	<ol style="list-style-type: none"> <li>Reflections over the x- and y-axes: graph the image UPK</li> <li>Reflections over the x- and y-axes: find the coordinates TF8</li> </ol>
<b>8.2:</b> Translations	<ol style="list-style-type: none"> <li>Translations: graph the image ZUF</li> <li>Translations: find the coordinates MHD</li> <li>Translations: write the rule XUJ</li> </ol>
<b>8.3:</b> Rotations	<ol style="list-style-type: none"> <li>Rotations: graph the image 5EQ</li> <li>Rotations: find the coordinates C2Q</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>Identify reflections, rotations, and translations 7MB</li> </ul>
<b>8.4:</b> Dilations	<ol style="list-style-type: none"> <li>Dilations: graph the image 8V9</li> <li>Dilations: find the coordinates XYY</li> <li>Dilations: scale factor and classification G64</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>Perimeter and area: changes in scale ZC6</li> </ul>
<b>8.5:</b> Composition of Transformations	<ol style="list-style-type: none"> <li>Compositions of congruence transformations: graph the image 8GA</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>Combinations of reflections, rotations, and translations UY7</li> </ul>

# Unit 9

## Exponent Properties

Textbook section	IXL skills
<b>9.1:</b> Multiplication Property of Exponents	<ol style="list-style-type: none"><li>1. Multiplication with exponents EDA</li><li>2. Power rule with exponents 7L6</li></ol>
<b>9.2:</b> Division Property of Exponents	<ol style="list-style-type: none"><li>1. Understanding negative exponents AEA</li><li>2. Division with exponents SPE</li><li>3. Identify equivalent expressions involving exponents II 76C</li></ol>
<b>9.3:</b> Scientific Notation	<ol style="list-style-type: none"><li>1. Scientific notation 3S7</li><li>2. Compare numbers written in scientific notation G9C</li></ol>
<b>9.4:</b> Application of Scientific Notation	<ol style="list-style-type: none"><li>1. Multiply numbers written in scientific notation GGU</li><li>2. Divide numbers written in scientific notation JPU</li><li>3. Add and subtract numbers written in scientific notation QRD</li></ol>

# Unit 10

## Three-Dimensional Geometry

Textbook section	IXL skills
<b>10.1:</b> Three-Dimensional Figures	1. Count vertices, edges, faces F5D 2. Cross sections of three-dimensional figures HFJ  <i>Also consider</i> <ul style="list-style-type: none"> <li>Bases of three-dimensional figures RF6</li> <li>Front, side, and top view 9Q3</li> </ul>
<b>10.2:</b> Surface Area of Prisms	1. Nets of three-dimensional figures 3R2 2. Surface area of cubes and prisms RFP
<b>10.3:</b> Surface Area of Pyramids	1. Surface area of pyramids XSJ
<b>10.4:</b> Volume of Prisms and Pyramids	1. Volume of cubes and prisms URT 2. Volume of cubes and rectangular prisms: word problems 8WV 3. Volume of pyramids CKU
<b>10.5:</b> Volume of Cylinders	1. Volume of cylinders NX6
<b>10.6:</b> Volume of Cones	1. Volume of cones NRX
<b>10.7:</b> Volume of Spheres	1. Volume of spheres DPW

# Unit 11

## Bivariate Data

Textbook section	IXL skills
<b>11.1:</b> Scatter Plots and Associations	<ol style="list-style-type: none"><li>1. Create scatter plots FTG</li><li>2. Identify trends with scatter plots 7T5</li><li>3. Outliers in scatter plots V2Y</li></ol>
<b>11.2:</b> Lines of Best Fit	<ol style="list-style-type: none"><li>1. Make predictions with scatter plots M8S<ul style="list-style-type: none"><li>• <i>Coming soon:</i> Identify lines of best fit</li></ul></li></ol>
<b>11.3:</b> Writing Equations for Lines of Best Fit	<ol style="list-style-type: none"><li>1. Scatter plots: line of best fit EJP</li></ol>
<b>11.4:</b> Bivariate Data and Frequency Tables	<ol style="list-style-type: none"><li>1. Find probabilities using two-way frequency tables G8G</li></ol>

# Unit 12

## Probability & Statistics

Textbook section	IXL skills
<b>12.1:</b> Probability	<ol style="list-style-type: none"> <li>1. Certain, probable, unlikely, impossible RVM</li> <li>2. Probability of simple events and opposite events F88</li> <li>3. Probability of mutually exclusive events and overlapping events 8TP</li> </ol>
<b>12.2:</b> Using Probability to Predict	<ol style="list-style-type: none"> <li>1. Experimental probability 9AA</li> <li>2. Make predictions using experimental probability WP6</li> <li>3. Make predictions using theoretical probability 9UW</li> </ol>
<b>12.3:</b> Compound Probability	<ol style="list-style-type: none"> <li>1. Compound events: find the number of outcomes HZR</li> <li>2. Compound events: find the number of sums SCV</li> <li>3. Probability of compound events YPQ</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Probability of independent and dependent events NED</li> </ul>
<b>12.4:</b> Random Sampling & Inferences	<ol style="list-style-type: none"> <li>1. Identify representative, random, and biased samples 5V3</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Interpret tables LEP</li> <li>• Interpret bar graphs YYE</li> <li>• Interpret circle graphs SGL</li> </ul>
<b>12.5:</b> Measures of Center & Variability	<ol style="list-style-type: none"> <li>1. Calculate mean, median, mode, and range U2A</li> <li>2. Calculate mean absolute deviation YNM</li> <li>3. Box plots SKN</li> </ol> <p><i>Also consider</i></p> <ul style="list-style-type: none"> <li>• Interpret line plots W92</li> </ul>