



# IXL Skill Alignment

Course 2 alignment for McGraw-Hill Integrated Math



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# Chapter 0

## Preparing for Integrated Math II

Textbook section	IXL skills
<b>Lesson 0-1:</b> Changing Units of Measure Within Systems	<ol style="list-style-type: none"> <li>1. Convert rates and measurements: customary units TXC</li> <li>2. Convert rates and measurements: metric units 6W2</li> </ol>
<b>Lesson 0-2:</b> Changing Units of Measure Between Systems	
<b>Lesson 0-3:</b> Simple Probability	<ol style="list-style-type: none"> <li>1. Theoretical probability 2MS</li> <li>2. Experimental probability LQV</li> </ol>
<b>Lesson 0-4:</b> Algebraic Expressions	<ol style="list-style-type: none"> <li>1. Evaluate variable expressions involving integers T9J</li> </ol>
<b>Lesson 0-5:</b> Linear Equations	<ol style="list-style-type: none"> <li>1. Solve linear equations PHF</li> </ol>
<b>Lesson 0-6:</b> Linear Inequalities	<ol style="list-style-type: none"> <li>1. Solve linear inequalities 9MX</li> </ol>
<b>Lesson 0-7:</b> Inverse Linear Functions	
<b>Lesson 0-8:</b> Ordered Pairs	<ol style="list-style-type: none"> <li>1. Coordinate plane review H6E</li> </ol>
<b>Lesson 0-9:</b> Systems of Linear Equations	<ol style="list-style-type: none"> <li>1. Solve systems of linear equations 76G</li> </ol>
<b>Lesson 0-10:</b> Square Roots and Simplifying Radicals	<ol style="list-style-type: none"> <li>1. Simplify radical expressions ZFF</li> <li>2. Simplify radical expressions with variables 82V</li> </ol>

# Chapter 1

## Quadratic Expressions and Equations

Textbook section	IXL skills
<b>Lesson 1-1:</b> Adding and Subtracting Polynomials	<ol style="list-style-type: none"> <li>1. Identify monomials QSC</li> <li>2. Polynomial vocabulary MTT</li> <li>3. Add and subtract polynomials 5EK</li> </ol>
<b>Lesson 1-2:</b> Multiplying a Polynomial by a Monomial	<ol style="list-style-type: none"> <li>1. Multiply a polynomial by a monomial G2G</li> </ol>
<b>Lesson 1-3:</b> Multiplying Polynomials	<ol style="list-style-type: none"> <li>1. Multiply two binomials M7Q</li> <li>2. Multiply polynomials 58A</li> </ol>
<b>Lesson 1-4:</b> Special Products	<ol style="list-style-type: none"> <li>1. Multiply two binomials: special cases 9JN</li> </ol>
<b>Lesson 1-5:</b> Using the Distributive Property	<ol style="list-style-type: none"> <li>1. Factor out a monomial JZL</li> <li>2. Factor quadratics using algebra tiles Y6U</li> <li>3. Factor by grouping HAA</li> <li>4. Solve a quadratic equation using the zero product property TNM</li> </ol>
<b>Lesson 1-6:</b> Solving $x^2 + bx + c = 0$	<ol style="list-style-type: none"> <li>1. Factor quadratics with leading coefficient 1 S9P</li> </ol>
<b>Lesson 1-7:</b> Solving $ax^2 + bx + c = 0$	<ol style="list-style-type: none"> <li>1. Factor quadratics with other leading coefficients 7ED</li> <li>2. Solve a quadratic equation by factoring CSS</li> </ol>
<b>Lesson 1-8:</b> Differences of Squares	<ol style="list-style-type: none"> <li>1. Factor quadratics: special cases 56E</li> </ol>
<b>Lesson 1-9:</b> Perfect Squares	
<b>Lesson 1-10:</b> Roots and Zeros	<ol style="list-style-type: none"> <li>1. Solve polynomial equations ZCH</li> <li>2. Write a polynomial from its roots BTU</li> <li>3. Fundamental Theorem of Algebra YS8</li> </ol>

# Chapter 2

## Quadratic Functions and Equations

Textbook section	IXL skills
<b>Lesson 2-1:</b> Graphing Quadratic Functions	<ol style="list-style-type: none"> <li>1. Characteristics of quadratic functions: graphs HW8</li> <li>2. Graph quadratic functions in vertex form C7T</li> </ol>
<b>Lesson 2-2:</b> Solving Quadratic Equations by Graphing	
<b>Lesson 2-3:</b> Transformations of Quadratic Functions	<ol style="list-style-type: none"> <li>1. Transformations of quadratic functions 6YS</li> </ol>
<b>Lesson 2-4:</b> Solving Quadratic Equations by Completing the Square	<ol style="list-style-type: none"> <li>1. Complete the square RD2</li> <li>2. Solve a quadratic equation by completing the square XCL</li> </ol>
<b>Lesson 2-5:</b> Solving Quadratic Equations by Using the Quadratic Formula	<ol style="list-style-type: none"> <li>1. Solve a quadratic equation using the quadratic formula XCF</li> </ol>
<b>Lesson 2-6:</b> Analyzing Functions with Successive Differences	<ol style="list-style-type: none"> <li>1. Identify linear, quadratic, and exponential functions from graphs DHB</li> <li>2. Identify linear, quadratic, and exponential functions from tables SP5</li> <li>3. Write linear, quadratic, and exponential functions AFA</li> </ol>
<b>Lesson 2-7:</b> Special Functions	<ol style="list-style-type: none"> <li>1. Complete a function table: absolute value functions 2DH</li> <li>2. Graph an absolute value function TD2</li> <li>3. Domain and range of absolute value functions: graphs NV7</li> <li>4. Domain and range of absolute value functions: equations FCY</li> </ol>

# Chapter 3

## Quadratic Functions and Relations

Textbook section	IXL skills
<b>Lesson 3-1:</b> Solving Quadratic Equations by Factoring	1. Solve a quadratic equation by factoring CSS
<b>Lesson 3-2:</b> Complex Numbers	1. Introduction to complex numbers 5VV 2. Add and subtract complex numbers JVF 3. Complex conjugates 7U5 4. Multiply complex numbers VZ8 5. Divide complex numbers MBM 6. Add, subtract, multiply, and divide complex numbers CEN 7. Powers of $i$ EUT
<b>Lesson 3-3:</b> The Quadratic Formula and the Discriminant	1. Using the discriminant SMF
<b>Lesson 3-4:</b> Transformations of Quadratic Graphs	1. Match quadratic functions and graphs AU8
<b>Lesson 3-5:</b> Quadratic Inequalities	

# Chapter 4

## Exponential and Logarithmic Functions and Relations

Textbook section	IXL skills
<b>Lesson 4-1:</b> Graphing Exponential Functions	<ol style="list-style-type: none"> <li>1. Match exponential functions and graphs 72J</li> <li>2. Domain and range of exponential functions: graphs ANC</li> <li>3. Domain and range of exponential functions: equations DZE</li> <li>4. Exponential growth and decay: word problems UKG</li> </ol>
<b>Lesson 4-2:</b> Solving Exponential Equations and Inequalities	<ol style="list-style-type: none"> <li>1. Solve exponential equations using factoring YQY</li> <li>2. Compound interest: word problems YJW</li> </ol>
<b>Lesson 4-3:</b> Simplifying Radical Expressions	<ol style="list-style-type: none"> <li>1. Simplify radical expressions ZFF</li> <li>2. Simplify radical expressions with variables 82V</li> <li>3. Simplify radical expressions involving fractions VRZ</li> <li>4. Divide radical expressions TYC</li> </ol>
<b>Lesson 4-4:</b> Operations with Radical Expressions	<ol style="list-style-type: none"> <li>1. Multiply radical expressions HMX</li> <li>2. Add and subtract radical expressions DLV</li> <li>3. Simplify radical expressions using the distributive property 28V</li> <li>4. Simplify radical expressions: mixed review YZC</li> </ol>
<b>Lesson 4-5:</b> Radical Equations	<ol style="list-style-type: none"> <li>1. Solve radical equations I MMG</li> <li>2. Solve radical equations II ZGH</li> </ol>

# Chapter 5

## Reasoning and Proof

Textbook section	IXL skills
<b>Lesson 5-1:</b> Postulates and Paragraph Proofs	
<b>Lesson 5-2:</b> Algebraic Proof	1. Properties of equality H8Q
<b>Lesson 5-3:</b> Proving Segment Relationships	
<b>Lesson 5-4:</b> Proving Angle Relationships	1. Identify complementary, supplementary, vertical, adjacent, and congruent angles 7P7 2. Find measures of complementary, supplementary, vertical, and adjacent angles VZU 3. Proofs involving angles HV9
<b>Lesson 5-5:</b> Angles and Parallel Lines	1. Transversals: name angle pairs V85 2. Transversals of parallel lines: find angle measures WB9
<b>Lesson 5-6:</b> Proving Lines Parallel	1. Proofs involving parallel lines I CUV 2. Proofs involving parallel lines II 5U8

# Chapter 6

## Congruent Triangles

Textbook section	IXL skills
<b>Lesson 6-1:</b> Angles of Triangles	<ol style="list-style-type: none"><li>Triangle Angle-Sum Theorem UBU</li><li>Exterior Angle Theorem TGK</li></ol>
<b>Lesson 6-2:</b> Congruent Triangles	<ol style="list-style-type: none"><li>Congruence statements and corresponding parts CYL</li><li>Solve problems involving corresponding parts WYB</li></ol>
<b>Lesson 6-3:</b> Proving triangles Congruent-SSS, SAS	<ol style="list-style-type: none"><li>SSS and SAS Theorems 48Q</li><li>Proving triangles congruent by SSS and SAS VVZ</li><li>SSS Theorem in the coordinate plane C5G</li></ol>
<b>Lesson 6-4:</b> Proving Triangles Congruent-ASA, AAS	<ol style="list-style-type: none"><li>ASA and AAS Theorems N94</li><li>Proving triangles congruent by ASA and AAS 23Z</li><li>SSS, SAS, ASA, and AAS Theorems LER</li></ol>
<b>Lesson 6-5:</b> Isosceles and Equilateral Triangles	<ol style="list-style-type: none"><li>Congruency in isosceles and equilateral triangles HPR</li><li>Proofs involving isosceles triangles V45</li></ol>
<b>Lesson 6-6:</b> Triangles and Coordinate Proof	



# Chapter 7

## Relationships in Triangles

Textbook section	IXL skills
<b>Lesson 7-1:</b> Bisectors of Triangles	<ol style="list-style-type: none"><li>1. Perpendicular Bisector Theorem BKS</li><li>2. Angle bisectors 68E</li><li>3. Triangles and bisectors GWE</li></ol>
<b>Lesson 7-2:</b> Medians and Altitudes of Triangles	<ol style="list-style-type: none"><li>1. Identify medians, altitudes, angle bisectors, and perpendicular bisectors JWN</li></ol>
<b>Lesson 7-3:</b> Inequalities in One Triangle	<ol style="list-style-type: none"><li>1. Exterior Angle Inequality YQA</li><li>2. Angle-side relationships in triangles ZN8</li></ol>
<b>Lesson 7-4:</b> Indirect Proof	
<b>Lesson 7-5:</b> Triangle Inequality Theorem	<ol style="list-style-type: none"><li>1. Triangle Inequality Theorem BW7</li></ol>
<b>Lesson 7-6:</b> Inequalities in Two Triangles	

# Chapter 8

## Quadrilaterals

Textbook section	IXL skills
<b>Lesson 8-1:</b> Angles of Polygons	<ol style="list-style-type: none"><li>1. Interior angles of polygons SZF</li><li>2. Exterior angles of polygons MQ7</li><li>3. Review: interior and exterior angles of polygons 6VG</li></ol>
<b>Lesson 8-2:</b> Parallelograms	<ol style="list-style-type: none"><li>1. Properties of parallelograms LLK</li></ol>
<b>Lesson 8-3:</b> Tests for Parallelograms	<ol style="list-style-type: none"><li>1. Proving a quadrilateral is a parallelogram H89</li></ol>
<b>Lesson 8-4:</b> Rectangles	
<b>Lesson 8-5:</b> Rhombi and Squares	<ol style="list-style-type: none"><li>1. Properties of rhombuses QVX</li><li>2. Properties of squares and rectangles R9M</li></ol>
<b>Lesson 8-6:</b> Trapezoids and Kites	<ol style="list-style-type: none"><li>1. Properties of trapezoids UC9</li><li>2. Properties of kites LZ9</li><li>3. Review: properties of quadrilaterals Q2R</li><li>4. Proofs involving triangles and quadrilaterals V7W</li><li>5. Proofs involving quadrilaterals P77</li></ol>

# Chapter 9

## Proportions and Similarity

Textbook section	IXL skills
<b>Lesson 9-1:</b> Ratios and Proportions	<ol style="list-style-type: none"> <li>1. Solve proportions: word problems 8ES</li> <li>2. Ratios and proportions 8EU</li> </ol>
<b>Lesson 9-2:</b> Similar Polygons	<ol style="list-style-type: none"> <li>1. Similarity ratios BT7</li> <li>2. Similarity statements UG8</li> <li>3. Identify similar figures 85X</li> <li>4. Side lengths and angle measures in similar figures E2K</li> <li>5. Perimeters of similar figures 9T8</li> </ol>
<b>Lesson 9-3:</b> Similar Triangles	<ol style="list-style-type: none"> <li>1. Similar triangles and indirect measurement JWK</li> <li>2. Similarity rules for triangles XJQ</li> </ol>
<b>Lesson 9-4:</b> Parallel Lines and Proportional Parts	<ol style="list-style-type: none"> <li>1. Midsegments of triangles 8GT</li> <li>2. Triangle Proportionality Theorem 6WA</li> </ol>
<b>Lesson 9-5:</b> Parts of Similar Triangles	
<b>Lesson 9-6:</b> Similarity Transformations	<ol style="list-style-type: none"> <li>1. Dilations: graph the image ZRD</li> <li>2. Dilations: find the coordinates 5KZ</li> <li>3. Dilations: scale factor and classification ZDM</li> <li>4. Similar triangles and similarity transformations G2Z</li> </ol>
<b>Lesson 9-7:</b> Scale Drawings and Models	<ol style="list-style-type: none"> <li>1. Scale drawings: word problems M7M</li> </ol>

# Chapter 10

## Right Triangles and Trigonometry

Textbook section	IXL skills
<b>Lesson 10-1:</b> Geometric Mean	
<b>Lesson 10-2:</b> The Pythagorean Theorem and Its Converse	<ol style="list-style-type: none"> <li>1. Prove the Pythagorean theorem JGT</li> <li>2. Pythagorean theorem F55</li> <li>3. Converse of the Pythagorean theorem NCK</li> <li>4. Pythagorean Inequality Theorems PZ7</li> </ol>
<b>Lesson 10-3:</b> Special Right Triangles	<ol style="list-style-type: none"> <li>1. Special right triangles LDM</li> </ol>
<b>Lesson 10-4:</b> Trigonometry	<ol style="list-style-type: none"> <li>1. Trigonometric ratios: sin, cos, and tan D5Z</li> <li>2. Trigonometric ratios: csc, sec, and cot L8J</li> <li>3. Trigonometric ratios: find a side length UZC</li> <li>4. Trigonometric ratios: find an angle measure 49E</li> <li>5. Solve a right triangle GPR</li> </ol>
<b>Lesson 10-5:</b> Angles of Elevation and Depression	
<b>Lesson 10-6:</b> The Law of Sines and Law of Cosines	<ol style="list-style-type: none"> <li>1. Law of Sines ZEL</li> <li>2. Law of Cosines 24X</li> <li>3. Solve a triangle REQ</li> </ol>
<b>Lesson 10-7:</b> Vectors	<ol style="list-style-type: none"> <li>1. Find the magnitude of a vector 7BB</li> <li>2. Find the component form of a vector 2UV</li> <li>3. Find the component form of a vector given its magnitude and direction angle 96Z</li> <li>4. Graph a resultant vector using the triangle method 59Z</li> <li>5. Graph a resultant vector using the parallelogram method KF8</li> <li>6. Add vectors KLY</li> </ol>

# Chapter 11

## Circles

Textbook section	IXL skills
<b>Lesson 11-1:</b> Circles and Circumference	
<b>Lesson 11-2:</b> Measuring Angles and Arcs	<ol style="list-style-type: none"> <li>1. Parts of a circle 4X2</li> <li>2. Central angles and arc measures VZX</li> <li>3. Arc length 7L9</li> </ol>
<b>Lesson 11-3:</b> Arcs and Chords	<ol style="list-style-type: none"> <li>1. Arcs and chords P63</li> </ol>
<b>Lesson 11-4:</b> Inscribed Angles	<ol style="list-style-type: none"> <li>1. Inscribed angles 98U</li> <li>2. Angles in inscribed right triangles 6DL</li> <li>3. Angles in inscribed quadrilaterals I 24Y</li> <li>4. Angles in inscribed quadrilaterals II 2Y5</li> </ol>
<b>Lesson 11-5:</b> Tangents	<ol style="list-style-type: none"> <li>1. Tangent lines CFV</li> </ol>
<b>Lesson 11-6:</b> Secants, Tangents, and Angle Measures	
<b>Lesson 11-7:</b> Special Segments in a Circle	
<b>Lesson 11-8:</b> Equations of Circles	<ol style="list-style-type: none"> <li>1. Write equations of circles in standard form from graphs 8HJ</li> <li>2. Write equations of circles in standard form using properties EXA</li> <li>3. Graph circles from equations in standard form GVH</li> <li>4. Graph circles from equations in general form 2AU</li> </ol>
<b>Lesson 11-9:</b> Areas of Circles and Sectors	<ol style="list-style-type: none"> <li>1. Area and circumference of circles ZDX</li> <li>2. Area of sectors XZQ</li> <li>3. Circle measurements: mixed review TFF</li> </ol>

# Chapter 12

## Extending Surface Area and Volume

Textbook section	IXL skills
<b>Lesson 12-1:</b> Representations of Three-Dimensional Figures	1. Nets and drawings of three-dimensional figures <small>PKE</small> 2. Cross sections of three-dimensional figures <small>7Z4</small>
<b>Lesson 12-2:</b> Surface Areas of Prisms and Cylinders	1. Surface area of prisms and cylinders <small>SWV</small>
<b>Lesson 12-3:</b> Surface Areas of Pyramids and Cones	1. Surface area of pyramids and cones <small>8WX</small>
<b>Lesson 12-4:</b> Volumes of Prisms and Cylinders	1. Volume of prisms and cylinders <small>N5F</small>
<b>Lesson 12-5:</b> Volumes of Pyramids and Cones	1. Volume of pyramids and cones <small>7J3</small>
<b>Lesson 12-6:</b> Surface Area and Volume of Spheres	1. Volume of spheres <small>62N</small>
<b>Lesson 12-7:</b> Spherical Geometry	
<b>Lesson 12-8:</b> Congruent and Similar Solids	1. Similar solids: find the missing length <small>UT7</small> 2. Surface area and volume of similar solids <small>N9X</small>

# Chapter 13

## Probability and Measurement

Textbook section	IXL skills
<b>Lesson 13-1:</b> Representing Sample Spaces	1. Counting principle NMP
<b>Lesson 13-2:</b> Probability with Permutations and Combinations	1. Permutations 2A8 2. Permutation and combination notation YXM
<b>Lesson 13-3:</b> Geometric Probability	1. Geometric probability KBK
<b>Lesson 13-4:</b> Simulations	1. Theoretical and experimental probability 2L5
<b>Lesson 13-5:</b> Probabilities of Independent and Dependent Events	1. Outcomes of compound events 82S 2. Identify independent and dependent events GW9
<b>Lesson 13-6:</b> Probabilities of Mutually Exclusive Events	