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Chapter 1

Functions and Exponents

Textbook section	IXL skills
Lesson 1.1: Absolute Value Functions	1. Graph an absolute value function TD2 2. Domain and range of absolute value functions: graphs NV7 *Also consider* • Transformations of absolute value functions 9TC
Lesson 1.2: Piecewise Functions	
Lesson 1.3: Inverse of a Function	1. Find the inverse of a function VME
Lesson 1.4: Properties of Exponents	**Positive exponents** 1. Exponents with integer bases EJ8 **Negative exponents** 2. Understanding negative exponents 73M 3. Negative exponents SCM **Mixed practice** 4. Multiplication with exponents HQD 5. Division with exponents 9SS 6. Multiplication and division with exponents HPK 7. Evaluate expressions using properties of exponents LRR **Power rule** 8. Power rule RWY
Lesson 1.5: Radicals and Rational Exponents	1. Evaluate integers raised to positive rational exponents KT5 2. Evaluate integers raised to rational exponents PQH 3. Simplify radical expressions ZFF

Lesson 1.6: Exponential Functions

1. Evaluate exponential functions LWE
2. Exponential growth and decay: word problems UKG

Also consider

- Match exponential functions and graphs 72J

Chapter 2

Polynomial Equations and Factoring

Textbook section	IXL skills
Lesson 2.1: Adding and Subtracting Polynomials	**Vocabulary** 1. Polynomial vocabulary MTT **Monomials** 2. Identify monomials QSC **Model with tiles** 3. Model polynomials with algebra tiles TYV **Add and subtract** 4. Add and subtract polynomials using algebra tiles J7V 5. Add and subtract polynomials 5EK **Add to find perimeter** 6. Add polynomials to find perimeter 8AS
Lesson 2.2: Multiplying Polynomials	1. Multiply two polynomials using algebra tiles WR5 2. Multiply two binomials M7Q
Lesson 2.3: Special Products of Polynomials	1. Multiply two binomials: special cases 9JN 2. Multiply polynomials 58A
Lesson 2.4: Solving Polynomial Equations in Factored Form	**Factor monomials** 1. GCF of monomials ZZU 2. Factor out a monomial JZL **Solve quadratics by factoring** 3. Solve a quadratic equation using the zero product property TNM 4. Solve a quadratic equation by factoring CSS
Lesson 2.5: Factoring $x^2 + bx + c$	1. Factor quadratics with leading coefficient 1 S9P

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Lesson 2.6: Factoring $ax^2 + bx + c$	1. Factor quadratics using algebra tiles Y6U 2. Factor quadratics with other leading coefficients 7ED
Lesson 2.7: Factoring Special Products	1. Factor quadratics: special cases 56E
Lesson 2.8: Factoring Polynomials Completely	1. Factor by grouping HAA 2. Factor polynomials TAH

Chapter 3

Graphing Quadratic Equations

Textbook section	IXL skills
Lesson 3.1: Graphing $f(x) = ax^2$	
Lesson 3.2: Graphing $f(x) = ax^2 + c$	
Lesson 3.3: Graphing $f(x) = ax^2 + bx + c$	1. Characteristics of quadratic functions: graphs HW8 2. Characteristics of quadratic functions: equations YJZ 3. Graph quadratic functions in standard form HMW
Lesson 3.4: Graphing $f(x) = a(x - h)^2 + k$	1. Graph quadratic functions in vertex form C7T 2. Transformations of quadratic functions 6YS
Lesson 3.5: Graphing $f(x) = a(x - p)(x - q)$	1. Match quadratic functions and graphs AU8 *Also consider* • Write a quadratic function from its vertex and another point YGV
Lesson 3.6: Focus of Parabola	**Find the vertex** 1. Find the vertex of a parabola W7W **Find the focus or directrix** 2. Find the focus or directrix of a parabola TD6 **Find the axis of symmetry** 3. Find the axis of symmetry of a parabola GXL **Write equations of parabolas** 4. Write equations of parabolas in vertex form from graphs NHB 5. Write equations of parabolas in vertex form using properties KA6 **Graph parabolas** 6. Graph parabolas R2Q

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Lesson 3.7: Comparing Linear, Exponential, and Quadratic Functions

Identify functions

1. Identify linear, quadratic, and exponential functions from tables SP5

Write functions

2. Write linear, quadratic, and exponential functions AFA

Solve a system by graphing

3. Solve a system of equations by graphing TSS
4. Solve a system of equations by graphing: word problems BVB

Find the number of solutions

5. Find the number of solutions to a system of equations by graphing HJW
6. Find the number of solutions to a system of equations ACN

Classify a system of equations

7. Classify a system of equations by graphing T2D

Solve a system using substitution

8. Solve a system of equations using substitution: word problems US9

Chapter 4
Solving Quadratic Equations

Textbook section	IXL skills
Lesson 4.1: Properties of Radicals	**Radical expressions with fractions** 1. Simplify radical expressions involving fractions VRZ **Operations with radicals** 2. Multiply radicals BKA 3. Add and subtract radical expressions DLV 4. Simplify radical expressions using the distributive property 28V 5. Divide radical expressions TYC 6. Simplify radical expressions: mixed review YZC
Lesson 4.2: Solving Quadratic Equations by Graphing	
Lesson 4.3: Solving Quadratic Equations Using Square Roots	1. Solve a quadratic equation using square roots ERF
Lesson 4.4: Solving Quadratic Equations by Completing the Square	1. Complete the square RD2 2. Solve a quadratic equation by completing the square XCL
Lesson 4.5: Solving Quadratic Equations Using the Quadratic Formula	1. Solve a quadratic equation using the quadratic formula XCF
Lesson 4.6: Complex Numbers	1. Introduction to complex numbers 5VV 2. Add and subtract complex numbers JVF 3. Complex conjugates 7U5 4. Multiply complex numbers VZ8
Lesson 4.7: Solving Quadratic Equations with Complex Solutions	1. Using the discriminant SMF
Lesson 4.8: Solving Nonlinear Systems of Equations	1. Solve a system of linear and quadratic equations: parabolas HVZ

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Lesson 4.9: Quadratic Inequalities

Chapter 5
Probability

Textbook section	IXL skills
Lesson 5.1: Sample Spaces and Probability	1. Theoretical probability 2MS 2. Experimental probability LQV
Lesson 5.2: Independent and Dependent Events	1. Identify independent and dependent events 5A7 2. Probability of independent and dependent events WRJ
Lesson 5.3: Two-Way Tables and Probability	1. Find probabilities using two-way frequency tables 93R 2. Find conditional probabilities using two-way frequency tables BZZ
Lesson 5.4: Probability of Disjoint and Overlapping Events	1. Outcomes of compound events GKA
Lesson 5.5: Permutations and Combinations	1. Counting principle GTX 2. Permutations SFZ 3. Permutation and combination notation 7TT
Lesson 5.6: Binomial Distributions	1. Write the probability distribution for a game of chance UFQ 2. Find probabilities using the binomial distribution ZGX

Chapter 6

Relationships within Triangles

Textbook section	IXL skills
Lesson 6.1: Proving Geometric Relationships	1. Proofs involving angles HV9
Lesson 6.2: Perpendicular and Angle Bisectors	1. Triangles and bisectors GWE
Lesson 6.3: Bisectors of Triangles	1. Construct the circumcenter or incenter of a triangle EC6 2. Construct the inscribed or circumscribed circle of a triangle 8VS
Lesson 6.4: Medians and Altitudes of Triangles	1. Construct the centroid or orthocenter of a triangle X8X 2. Identify medians, altitudes, angle bisectors, and perpendicular bisectors JWN
Lesson 6.5: The Triangle Midsegment Theorem	1. Midsegments of triangles 8GT
Lesson 6.6: Indirect Proof and Inequalities in One Triangle	1. Triangle Inequality Theorem BW7
Lesson 6.7: Inequalities in Two Triangles	1. Proofs involving triangles I G78 2. Proofs involving triangles II DUQ

Chapter 7

Quadrilaterals and Other Polygons

Textbook section	IXL skills
Lesson 7.1: Angles of Polygons	1. Interior angles of polygons SZF 2. Exterior angles of polygons MQ7 3. Review: interior and exterior angles of polygons 6VG
Lesson 7.2: Properties of Parallelograms	1. Properties of parallelograms LLK
Lesson 7.3: Proving that a Quadrilateral Is a Parallelogram	1. Proving a quadrilateral is a parallelogram H89
Lesson 7.4: Properties of Special Parallelograms	1. Properties of rhombuses QVX 2. Properties of squares and rectangles R9M
Lesson 7.5: Properties of Trapezoids and Kites	**Classify quadrilaterals** 1. Classify quadrilaterals I 86L 2. Classify quadrilaterals II MVK **Find angle measures** 3. Find missing angles in quadrilaterals 6V4 **Trapezoids** 4. Properties of trapezoids UC9 **Kites** 5. Properties of kites LZ9 **Quadrilaterals review** 6. Review: properties of quadrilaterals Q2R **Proofs** 7. Proofs involving quadrilaterals P77

Chapter 8
Similarity

Textbook section	IXL skills
Lesson 8.1: Dilations	1. Dilations: graph the image ZRD 2. Dilations: find the coordinates 5KZ 3. Dilations: scale factor and classification ZDM
Lesson 8.2: Similarity and Transformations	1. Similar triangles and similarity transformations G2Z
Lesson 8.3: Similar Polygons	**Similar figures** 1. Identify similar figures 85X 2. Similarity ratios BT7 3. Similarity statements UG8 **Solve for side lengths and angles** 4. Side lengths and angle measures in similar figures E2K 5. Similar triangles and indirect measurement JWK **Perimeter and area** 6. Perimeters of similar figures 9T8 7. Areas of similar figures 2BA
Lesson 8.4: Proving Triangle Similarity by AA	
Lesson 8.5: Proving Triangle Similarity by SSS and SAS	1. Similarity rules for triangles XJQ 2. Prove similarity statements ETX
Lesson 8.6: Proportionality Theorems	1. Triangle Proportionality Theorem 6WA

Chapter 9

Right Triangles and Trigonometry

Textbook section	IXL skills
Lesson 9.1: The Pythagorean Theorem	1. Prove the Pythagorean theorem JGT 2. Pythagorean theorem F55 3. Converse of the Pythagorean theorem NCK 4. Pythagorean Inequality Theorems PZ7
Lesson 9.2: Special Right Triangles	1. Special right triangles LDM
Lesson 9.3: Similar Right Triangles	1. Similarity and altitudes in right triangles CE7 *Also consider* • Proofs involving similarity in right triangles XCT
Lesson 9.4: The Tangent Ratio	1. Find the tangent ratio 47C 2. Find a side length using the tangent ratio C68
Lesson 9.5: The Sine and Cosine Ratios	1. Trigonometric ratios: sin, cos, and tan D5Z 2. Find trigonometric functions of special angles BP9 3. Trigonometric ratios: find a side length UZC *Also consider* • Find trigonometric functions using a calculator UK6
Lesson 9.6: Solving Right Triangles	1. Inverses of trigonometric functions TBB 2. Trigonometric ratios: find an angle measure 49E 3. Solve a right triangle GPR

Chapter 10
Circles

Textbook section	IXL skills
Lesson 10.1: Lines and Segments That Intersect Circles	1. Tangent lines CFV 2. Construct a tangent line to a circle JSH
Lesson 10.2: Finding Arc Measures	1. Parts of a circle 4X2 2. Central angles and arc measures VZX
Lesson 10.3: Using Chords	1. Arcs and chords P63
Lesson 10.4: Inscribed Angles and Polygons	1. Inscribed angles 98U 2. Angles in inscribed right triangles 6DL 3. Angles in inscribed quadrilaterals I 24Y 4. Angles in inscribed quadrilaterals II 2Y5
Lesson 10.5: Angle Relationships in Circles	
Lesson 10.6: Segment Relationships in Circles	
Lesson 10.7: Circles in the Coordinate Plane	**Find the center, radius, or diameter** 1. Find the center of a circle CJA 2. Find the radius or diameter of a circle VGW **Write equations in standard form** 3. Write equations of circles in standard form from graphs 8HJ 4. Write equations of circles in standard form using properties EXA **Graph circles** 5. Graph circles from equations in standard form GVH

Chapter 11

Circumference, Area, and Volume

Textbook section	IXL skills
Lesson 11.1: Circumference and Arc Length	1. Arc length 7L9 2. Convert between radians and degrees NJ9 3. Radians and arc length N8Y
Lesson 11.2: Areas of Circles and Sectors	1. Area and circumference of circles ZDX 2. Area of sectors XZQ
Lesson 11.3: Areas of Polygons	
Lesson 11.4: Volumes of Prisms and Cylinders	1. Volume of prisms and cylinders N5F
Lesson 11.5: Volumes of Pyramids	1. Volume of pyramids E99
Lesson 11.6: Surface Areas and Volumes of Cones	1. Similar solids: find the missing length UT7 2. Surface area of cones NMJ 3. Volume of cones EEE
Lesson 11.7: Surface Areas and Volumes of Spheres	1. Surface area of spheres TGF 2. Volume of spheres 62N