



IXL Skill Alignment

8th grade alignment for EngageNY Common Core Curriculum



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Module 1

Integer Exponents and Scientific Notation

Textbook section

IXL skills

Topic A: Exponential Notation and Properties of Integer Exponents

1. Understanding exponents VFV
2. Understanding negative exponents YBB
3. Multiplication with exponents EQY
4. Division with exponents M2C
5. Multiplication and division with exponents L2J
6. Power rule AEQ

Also consider

- Evaluate negative exponents WGS

Topic B: Magnitude and Scientific Notation

1. Convert between standard and scientific notation H8A
2. Compare numbers written in scientific notation RHT
3. Multiply numbers written in scientific notation YZU
4. Divide numbers written in scientific notation SGT

Checkpoint opportunity

1. Checkpoint: Integer exponents GEJ
2. Checkpoint: Scientific notation D2U

Module 2

The Concept of Congruence

Textbook section	IXL skills
Topic A: Definitions and Properties of the Basic Rigid Motions	<ol style="list-style-type: none"> 1. Rotations: graph the image AC9 2. Rotations: find the coordinates HHS <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Reflections: graph the image NBM • Reflections: find the coordinates KUX
Topic B: Sequencing the Basic Rigid Motions	<ol style="list-style-type: none"> 1. Identify reflections, rotations, and translations UYL <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Translations: graph the image XUS • Translations: find the coordinates RUP
Topic C: Congruence and Angle Relationships	<ol style="list-style-type: none"> 1. Transversals of parallel lines: find angle measures V99 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Find missing angles in triangles JFJ • Exterior Angle Theorem FMP
Topic D: The Pythagorean Theorem	
Checkpoint opportunity	<ol style="list-style-type: none"> 1. Checkpoint: Congruence transformations CCR

Module 3

Similarity

Textbook section	IXL skills
Topic A: Dilation	<ol style="list-style-type: none">1. Dilations: graph the image 9T42. Dilations: find the coordinates UV9 <p><i>Also consider</i></p> <ul style="list-style-type: none">• Dilations: scale factor and classification 8NK
Topic B: Similar Figures	<ol style="list-style-type: none">1. Similar and congruent figures U852. Dilations: scale factor and classification 8NK <p><i>Also consider</i></p> <ul style="list-style-type: none">• Side lengths and angle measures of similar figures 79Y
Topic C: The Pythagorean Theorem	<ol style="list-style-type: none">1. Converse of the Pythagorean theorem: is it a right triangle? EQZ
Checkpoint opportunity	Modules 2-3 <ol style="list-style-type: none">1. Checkpoint: Transformations on the coordinate plane WPB2. Checkpoint: Similarity transformations DYW3. Checkpoint: Triangles and transversals EPV

Module 4

Linear Equations

Textbook section

IXL skills

Topic A: Writing and Solving Linear Equations

1. Solve proportions BNY
2. Write variable expressions: two or three operations 6QT
3. Identify terms and coefficients T8K
4. Which x satisfies an equation? BVQ
5. Write an equation from words F6R
6. Solve multi-step equations 55K
7. Solve equations involving like terms Q2B
8. Solve equations with variables on both sides ZYL
9. Solve equations: mixed review HZZ
10. Solve one-step and two-step equations: word problems HCP
11. Find the number of solutions XDE

Also consider

- Solve one-step equations 5J4
- Solve two-step equations JXD
- Evaluate a linear function: word problems DA6

Topic B: Linear Equations in Two Variables and Their Graphs

1. Solve proportions: word problems 5XV
2. Identify proportional relationships by graphing RXD
3. Interpret graphs of proportional relationships Q96

Topic C: Slope and Equations of Lines

1. Find the constant of proportionality from a table ZCK
2. Write equations for proportional relationships from tables S69
3. Find the constant of proportionality from a graph YMH
4. Write and solve equations for proportional relationships HPM
5. Find the slope of a graph D7M

6. Find the slope from two points ZAC
7. Slope-intercept form: find the slope and y-intercept U55
8. Graph a line from an equation in slope-intercept form W5E
9. Write a linear equation from a slope and y-intercept WHP
10. Write a linear equation from a graph WHM
11. Write a linear equation from a slope and a point VKP
12. Write a linear equation from two points 2R9
13. Constant rate of change ZPF
14. Evaluate a linear function LNV
15. Complete a table for a linear function D9B
16. Complete a table and graph a linear function DC2
17. Write linear functions: word problems YK6

Also consider

- Write equations for proportional relationships from graphs G7N
- Find a missing coordinate using slope R5P
- Graph a line using slope FSV
- Graph a line from an equation in point-slope form RZZ
- Does (x, y) satisfy the linear function? 5BD
- Write a linear function from a table UYY

Topic D: Systems of Linear Equations and Their Solutions

1. Convert between Celsius and Fahrenheit L9F
2. Guess-and-check word problems CPR
3. Is (x, y) a solution to the system of equations? N46
4. Solve a system of equations by graphing WV5
5. Solve a system of equations by graphing: word problems W9J
6. Find the number of solutions to a system of equations by graphing AGZ
7. Find the number of solutions to a system of equations UYM
8. Solve a system of equations using substitution J8X

9. Solve a system of equations using substitution:
word problems 9M8
10. Solve a system of equations using
elimination ZQV
11. Solve a system of equations using elimination:
word problems Z97

Also consider

- Interpret points on the graph of a linear
function 9E8

Topic E: Pythagorean Theorem

Checkpoint opportunity

1. Checkpoint: Slope and linear equations S7V
 2. Checkpoint: Solve linear equations BBZ
 3. Checkpoint: Systems of equations MFL
 4. Checkpoint: Proportional relationships 58H
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Module 5

Examples of Functions from Geometry

Textbook section	IXL skills
Topic A: Functions	<ol style="list-style-type: none">1. Interpret graphs of proportional relationships Q962. Identify functions ELJ3. Evaluate a linear function LNV4. Complete a table for a linear function D9B5. Write a linear function from a table UYY6. Write linear functions: word problems YK67. Identify linear and nonlinear functions: graphs and equations XB8 <p><i>Also consider</i></p> <ul style="list-style-type: none">• Rate of change: tables 6AV• Does (x, y) satisfy the nonlinear function? ZG9• Solve a system of equations using substitution: word problems 9M8• Solve a system of equations using elimination: word problems Z97
Topic B: Volume	<ol style="list-style-type: none">1. Area between two shapes HKM2. Volume of cylinders 9F33. Volume of spheres QX7
Checkpoint opportunity	<ol style="list-style-type: none">1. Checkpoint: Understand functions 6NP2. Checkpoint: Compare functions XQJ3. Checkpoint: Linear and nonlinear functions JKA4. Checkpoint: Volume 9GB

Module 6

Linear Functions

Textbook section	IXL skills
Topic A: Linear Functions	<ol style="list-style-type: none">1. Graph a line from an equation in slope-intercept form W5E2. Write a linear equation from a graph WHM3. Write a linear equation from two points 2R94. Constant rate of change ZPF5. Complete a table for a linear function D9B6. Complete a table and graph a linear function DC27. Interpret points on the graph of a linear function 9E88. Write linear functions: word problems YK6 <p><i>Also consider</i></p> <ul style="list-style-type: none">• Identify linear and nonlinear functions: graphs and equations XB8
Topic B: Bivariate Numerical Data	<ol style="list-style-type: none">1. Identify trends with scatter plots GZE2. Outliers in scatter plots RP8 <p><i>Also consider</i></p> <ul style="list-style-type: none">• Write a linear equation from two points 2R9
Topic C: Linear and Nonlinear Models	<ol style="list-style-type: none">1. Identify independent and dependent variables FSF2. Write linear functions: word problems YK63. Evaluate a linear function: word problems DA6 <p><i>Also consider</i></p> <ul style="list-style-type: none">• Simple interest YAT
Topic D: Bivariate Categorical Data	<ol style="list-style-type: none">1. Identify representative, random, and biased samples CSR

Checkpoint opportunity

1. Checkpoint: Sketch and describe graphs K7A
 2. Checkpoint: Scatter plots DDR
 3. Checkpoint: Lines of best fit DEH
 4. Checkpoint: Linear models: interpret and solve 9YQ
 5. Checkpoint: Two-way frequency tables HJG
 6. Checkpoint: Construct and interpret linear functions 3K7
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Module 7

Introduction to Irrational Numbers Using Geometry

Textbook section

IXL skills

Topic A: Square and Cube Roots

1. Square roots of perfect squares 9RS
2. Relationship between squares and square roots 8W2
3. Cube roots of positive perfect cubes RYG

Also consider

- Positive and negative square roots 8TF
- Estimate positive and negative square roots 96T
- Solve equations using square roots NNA
- Solve equations using cube roots TQ5

Topic B: Decimal Expansions of Numbers

1. Convert between decimals and fractions or mixed numbers 2RC
2. Identify rational and irrational numbers NV6

Also consider

- Prime factorization YVA
- Compare rational numbers MUK
- Put rational numbers in order QP5
- Estimate cube roots RLC
- Area and circumference of circles CHV

Topic C: The Pythagorean Theorem

1. Find the distance between two points ZBP
2. Pythagorean theorem: find the length of the hypotenuse 7ZL
3. Pythagorean theorem: find the missing leg length Y9C
4. Pythagorean theorem: find the perimeter VGE
5. Pythagorean theorem: word problems 87U
6. Converse of the Pythagorean theorem: is it a right triangle? EQZ

Topic D: Applications of Radicals and Roots

1. Volume of cubes, prisms, and pyramids JUB
2. Surface area of cubes, prisms, and pyramids ZT6
3. Volume of cylinders 9F3
4. Volume of spheres QX7

Also consider

- Similar solids MLN

Checkpoint opportunity

1. Checkpoint: Rational and irrational numbers SNE
 2. Checkpoint: Approximate irrational numbers JHR
 3. Checkpoint: Square and cube roots UF5
 4. Checkpoint: Pythagorean theorem and its converse 6GQ
 5. Checkpoint: Applications of the Pythagorean theorem QWT
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