

Standard 1 • Algebra and Functions

Expectations	<i>Interactive Mathematics Program, Year 2</i>
IM2.1.1 Graph a linear inequality.	YEAR 2 <u><i>Cookies</i></u> Picturing Cookies: pp. 312-313, 315, 318-324
IM2.1.2 Interpret given situations as functions in graphs, formulas, and words.	YEAR 2 <u><i>Solve It!</i></u> Solving Equations & Understanding Situations: pp. 9-10 Beyond Linearity: pp. 85-90 <u><i>Cookies</i></u> Cookies & Inequalities: pp. 302-304, 310 Picturing Cookies: pp. 312-315, 318
IM2.1.3 Find a linear equation that models a data set using the median fit method and use the model to make predictions.	Not covered
IM2.1.4 Graph quadratic functions. Show and explain the effects on the graph of changing a coefficient in a quadratic function. Find and interpret the zeros and maximum or minimum value of quadratic functions.	YEAR 2 <u><i>Solve It!</i></u> Beyond Linearity: pp. 80, 82, 88-89 YEAR 3 <u><i>Fireworks</i></u> World of Quadratics: pp. 4-5, 8, 11-15 Factoring & Solving: pp. 19-26 Algebra of the Vertex: pp. 28-35

Standard 2 • Geometry and Measurement

Expectations	<i>Interactive Mathematics Program, Year 2</i>
IM2.2.1 Find the lengths and midpoints of line segments in one-or two-dimensional coordinate systems.	YEAR 3 <u><i>Orchard Hideout!</i></u> Coordinates & Distance: pp. 78-81
IM2.2.2 Construct congruent segments and angles, angle bisectors, and parallel and perpendicular lines using a straight edge and compass, explaining and justifying the process used.	YEAR 3 <u><i>Orchard Hideout!</i></u> Orchards & Mini-Orchards: pp. 69-73 Equidistant Points & Lines: pp. 84, 86-87
IM2.2.3 Find the measures of interior and exterior angles of polygons, justifying the method used.	YEAR 1 <u><i>Patterns</i></u> Angle on Patterns: pp. 43, 46, 51-54 <u><i>Shadows</i></u> Supplemental: pp. 496-498 YEAR 2 <u><i>Do Bees Build it Best?</i></u> Corral Problem: pp. 242, 244, 246
IM2.2.4 Identify and describe triangles that are right, acute, obtuse, scalene, isosceles, equilateral, and equiangular.	YEAR 1 <u><i>Shadows</i></u> Triangles Galore: pp. 433-441
IM2.2.5 Define, identify, and construct altitudes, medians, angle bisectors, and perpendicular bisectors.	YEAR 2 <u><i>Do Bees Build it Best?</i></u> Area, Geoboards, & Trigonometry: pp. 213-215, 222 YEAR 3 <u><i>Orchard Hideout</i></u> Orchards & Mini-Orchards: pp. 69-73 Equidistant Points & Lines: pp. 84-86 All About Circles: pp. 97-98
IM2.2.6 Use properties of congruent and similar triangles to solve problems involving lengths and areas.	YEAR 1 <u><i>Shadows</i></u> Geometry of Shadows: pp. 419 Triangles Galore: pp. 426-427 Lights & Shadows: pp. 452-454, 458 The Lamp & the Sun: pp. 461-464

Expectations	<i>Interactive Mathematics Program, Year 2</i>
	YEAR 2 <u><i>Do Bees Build it Best?</i></u> Area, Geoboards, & Trigonometry: pp. 222-224 Corral Problem: pp. 242, 244, 246
IM2.2.7 Find measures of sides, perimeters, and areas of triangles, and relate these measures to each other using formulas.	YEAR 2 <u><i>Do Bees Build it Best?</i></u> Area, Geoboards, & Trigonometry: pp. 202-203, 206-208, 210-215, 217-218 Corral Problem: pp. 243
IM2.2.8 Prove, understand, and apply the inequality theorems: triangle inequality, inequality in one triangle, and the hinge theorem.	YEAR 1 <u><i>Shadows</i></u> Geometry of Shadows: pp. 417 Triangles Galore: pp. 425, 428-429, 431-432, 438-439
IM2.2.9 State and apply the relationships that exist when the altitude is drawn to the hypotenuse of a right triangle.	YEAR 2 <u><i>Do Bees Build it Best?</i></u> Area, Geoboards, & Trigonometry: pp. 213-215
IM2.2.10 Use special right triangles (30-60-90 and 45-45-90) to solve problems.	YEAR 2 <u><i>Do Bees Build it Best?</i></u> Corral Problem: pp. 246 YEAR 3 <u><i>Orchard Hideout</i></u> Supplemental: pp. 125, 143
IM2.2.11 Define and apply the trigonometric functions (sine, cosine, tangent, cotangent, secant, cosecant) defined by angles of right triangles.	YEAR 1 <u><i>Shadows</i></u> The Lamp & the Sun: pp. 464-473 YEAR 2 <u><i>Do Bees Build it Best?</i></u> Area, Geoboards, & Trigonometry: pp. 216, 219-224 Corral Problem: pp. 242, 244, 246
IM2.2.12 Know and use the relationships between the trigonometric functions: $\tan x = \sin x / \cos x$ and $\sin^2 x + \cos^2 x = 1$.	YEAR 4 <u><i>High Dive</i></u> Trigonometric Interlude: pp. 60-65
IM2.2.13 Solve word problems involving right triangles.	YEAR 1 <u><i>Shadows</i></u>

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	The Lamp & the Sun: pp. 464-473 YEAR 2 <u><i>Do Bees Build it Best?</i></u> Area, Geoboards, & Trigonometry: pp. 216, 219-224 Corral Problem: pp. 242, 244, 246
IM2.2.14 Find the center of a given circle. Construct the circle that passes through three given points (not in a straight line).	YEAR 3 <u><i>Orchard Hideout</i></u> Orchards & Mini-Orchards: pp. 69-71, 73
IM2.2.15 Define and identify relationships among: radius, diameter, arc, measure of an arc, chord, secant, and tangent.	YEAR 3 <u><i>Orchard Hideout</i></u> All About Circles: pp. 90-96 Cable Complications: pp. 105-107
IM2.2.16 Prove theorems related to circles.	YEAR 3 <u><i>Orchard Hideout</i></u> Equidistant Points & Lines: pp. 85-88 Supplemental: pp. 133-137, 146-148
IM2.2.17 Construct tangents to circles, and circumscribe and inscribe circles.	YEAR 3 <u><i>Orchard Hideout</i></u> Orchards & Mini-Orchards: pp. 69-71, 73 Equidistant Points & Lines: pp. 85-88
IM2.2.18 Define, find, and use measures of arcs and related angles (central, inscribed, and intersections of secants and tangents).	YEAR 4 <u><i>High Dive</i></u> Height & the Sine: pp. 16
IM2.2.19 Define and identify congruent, similar, and concentric circles.	Not covered
IM2.2.20 Define, find, and use measures of circumference, arc length, and areas of circles and sectors. Use these to solve problems.	YEAR 3 <u><i>Orchard Hideout</i></u> Cable Complications: pp. 105-107 YEAR 4 <u><i>High Dive</i></u> Height & the Sine: pp. 16
IM2.2.21 Describe sets of points	YEAR 2

Expectations	<i>Interactive Mathematics Program, Year 2</i>
on spheres: chords, tangents, and great circles.	<u><i>Do Bees Build it Best?</i></u> Bees & Supplemental: pp. 276

Standard 3 • Data Analysis and Statistics

Expectations	<i>Interactive Mathematics Program, Year 2</i>
IM2.3.1 Describe the association between two variables by interpreting a scatterplot.	YEAR 1 <u><i>Overland Trail</i></u> Making Predictions With Graphs: pp. 239-251 Calculators on the Trail?: pp. 259-260 <u><i>Pit & the Pendulum</i></u> Standard Pendulum: pp. 362-363 Graphs & Equations: pp. 367-368 Measuring & Predicting: pp. 374, 376
IM2.3.2 Interpret correlation coefficients.	Not covered
IM2.3.3 Make predictions from the least squares regression line or its equation.	Not covered
IM2.3.4 Understand that a correlation between two variables does not necessarily imply one directly causes the other.	YEAR 1 <u><i>The Game of Pig</i></u> Flip, Flip: pp. 108-109
IM2.3.5 Understand the effects of outliers on correlation coefficients, on the least squares regression line, and on the interpretations of correlation coefficients and regression lines in real-life contexts.	Not covered

Standard 4 • Probability

Expectations	<i>Interactive Mathematics Program, Year 2</i>
IM2.4.1 Construct a probability distribution by simulation and use it to understand and analyze the probabilistic situation.	YEAR 2 <u><i>Is There Really a Difference?</i></u> Tool for Measuring Differences: pp. 148-153
IM2.4.2 Explore the geometric, or waiting-time, distribution.	Not covered
IM2.4.3 Understand fundamental concepts of probability (i.e., independent events, multiplication rule, expected value).	YEAR 1 <u><i>Game of Pig</i></u> Game of Chance & Strategy: pp. 102-103 Flip, Flip: pp. 105-113 Pictures of Probability: pp. 122-126 In the Long Run: pp. 128-131, 134-140, 142-149 Little Pig: pp. 151-156 Back to Pig: pp. 158-160
IM2.4.4 Understand and apply counting principles to compute combinations and permutations.	YEAR 3 <u><i>Pennant Fever</i></u> Baseball & Counting: pp. 419-434 Combinatorial Reasoning: pp. 436-439, 444, 447-448 Baseball Finale: pp. 459
IM2.4.5 Use the basic counting principle, combinations, and permutations to compute probabilities.	YEAR 1 <u><i>The Game of Pig</i></u> Flip, Flip: pp. 112 Pictures of Probability: pp. 124-126 In the Long Run: pp. 137-140, 144-146, 149 Little Pig: pp. 152-156 YEAR 3 <u><i>Pennant Fever</i></u> Baseball & Counting: pp. 419-434 Combinatorial Reasoning: pp. 436-439, 444, 447-448 Baseball Finale: pp. 459

Standard 5 • Discrete Mathematics

Expectations	<i>Interactive Mathematics Program, Year 2</i>
IM2.5.1 Experience in mathematical modeling by building and using vertex-edge graph models to solve problems in a variety of real-world settings.	Not covered
IM2.5.2 Develop the skill of algorithmic problem solving: designing, using, and analyzing systematic procedures for problem solving.	<p>YEAR 2</p> <p><u><i>Solve It!</i></u> Solving Equations & Understanding Situations: pp. 11-12 Keeping Things Balanced: pp. 33-34 What's the Same?: pp. 51-53, 61-66</p> <p><u><i>Is There Really a Difference?</i></u> Data, Data, Data: pp. 112 Coins & Dice: pp. 122-124, 126-127</p> <p><u><i>Do Bees Build it Best?</i></u> Area, Geoboards, & Trigonometry: pp. 217-218 Corral Problem: pp. 242, 244, 246</p> <p><u><i>Cookies</i></u> Using the Feasible Region: pp. 332-333 Points of Intersection: pp. 344-345</p>
IM2.5.3 Optimize networks in different ways and in different contexts by finding minimal spanning trees, shortest paths, and Hamiltonian paths.	Not covered
IM2.5.4 Use matrices for organizing and displaying data in a variety of real-world settings.	<p>YEAR 3</p> <p><u><i>Meadows or Malls?</i></u> Saved by the Matrices!: 223-226, 229-236</p>
IM2.5.5 Develop mathematical modeling skills by building matrix models and then apply the models to solve problems.	<p>YEAR 3</p> <p><u><i>Meadows or Malls?</i></u> Saved by the Matrices!: 223-226, 229-236, 238-244 Solving "Meadows or Malls?": pp. 250</p>
IM2.5.6 Apply matrix operations to solve problems (i.e., row sums, scalar multiplication, addition, subtraction, and matrix	<p>YEAR 3</p> <p><u><i>Meadows or Malls?</i></u> Saved by the Matrices!: 223-226, 229-236, 238-244 Solving "Meadows or Malls?": pp. 250</p>

Expectations	<i>Interactive Mathematics Program, Year 2</i>
subtraction, and matrix multiplication).	
IM2.5.7 Use matrices and inverse matrices to answer questions that involve systems of linear equations.	YEAR 3 <u><i>Meadows or Malls?</i></u> Saved by the Matrices!: 238-246 Solving "Meadows or Malls?": pp. 250
IM2.5.8 Build and use matrix representations to model polygons, transformations, and computer animations.	YEAR 4 <u><i>As the Cube Turns</i></u> Rotating in Two Dimensions: pp. 158 Projecting Pictures: pp. 165 Rotating in Three Dimensions: pp. 186-188

Standard 6 • Trigonometry

Expectations	<i>Interactive Mathematics Program, Year 2</i>
IM2.6.1 Explore properties and applications of the sine, cosine, and tangent ratios for the lengths of sides of right triangles.	<p>YEAR 1 <u><i>Shadows</i></u> The Lamp & the Sun: pp. 473 Supplemental: pp. 499</p> <p>YEAR 2 <u><i>Do Bees Build it Best?</i></u> Area, Geoboards, & Trigonometry: pp. 216, 221-224</p>

Standard 7 • Mathematical Reasoning and Problem Solving

Expectations	<i>Interactive Mathematics Program, Year 2</i>
IM2.7.1 Use the properties of the real number system and the order of operations to justify the steps of simplifying functions and solving equations.	YEAR 2 <u><i>Solve It!</i></u> Keeping Things Balanced: pp. 20-22, 28 What’s the Same?: pp. 39-49, 54-59
IM2.7.2 Make conjectures about geometric ideas. Distinguish between information that supports a conjecture and proof of a conjecture.	YEAR 2 <u><i>Do Bees Build it Best?</i></u> Special Property of Right Triangles: pp. 226, 229, 232, 238-239
IM2.7.3 Write and interpret statements of the form “if--then” and “if and only if.”	YEAR 3 <u><i>Orchard Hideout!</i></u> Orchards & Mini-Orchards: pp. 72 Equidistant Points & Lines: pp. 83-88
IM2.7.4 State, use, and examine the validity of the converse, inverse, and contrapositive of “if--then” statements.	YEAR 1 <u><i>Shadows</i></u> Triangles Galore: pp. 438-439
IM2.7.5 Write geometric proofs, including proofs by contradiction and proofs involving coordinate geometry. Use and compare a variety of ways to present deductive proofs, such as flow charts, paragraphs, two column, and indirect.	YEAR 1 <u><i>Patterns</i></u> Angle on Patterns: pp. 53 <u><i>Shadows</i></u> Triangles Galore: pp. 437, 440, 442-443 Lights & Shadows: pp. 450-451, 458 YEAR 3 <u><i>Orchard Hideout!</i></u> Orchards & Mini-Orchards: pp. 72, 75 Equidistant Points & Lines: pp. 83, 85, 88
IM2.7.6 Perform basic constructions, describing and justifying the procedures used. Distinguish between constructing and drawing geometric figures.	YEAR 3 <u><i>Orchard Hideout!</i></u> Orchards & Mini-Orchards: pp. 69-73 Equidistant Points & Lines: pp. 86-87
IM2.7.7 Decide if a given algebraic statement is true always, sometimes, or never (statements involving rational or	YEAR 2 <u><i>All About Alice</i></u> Extending Exponentiation: pp. 392-395

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(statements involving rational or radical expressions, logarithms or exponential functions).	"Curiouser & Curiouser!": pp. 406-410
IM2.7.8 Understand that the logic of equation solving begins with the assumption that the variable is a number that satisfies the equation, and that the steps taken when solving equations create new equations that have, in most cases, the same solution as the original. Understand that similar logic applies to solving systems of equations simultaneously.	YEAR 2 <u><i>Solve It!</i></u> Keeping Things Balanced: pp. 20-22, 28 What's the Same?: pp. 60-66 <u><i>Cookies</i></u> Points of Intersection: pp. 340-343, 346
IM2.7.9 Use counterexamples to show that statements are false.	YEAR 1 <u><i>Shadows</i></u> Geometry of Shadows: pp. 417, 422-423 Triangles Galore: pp. 425, 428-429, 431-434 YEAR 2 <u><i>Solve It!</i></u> Solving Equations & Understanding Situations: pp. 11 12 What's the Same?: pp. 51-52 <u><i>All About Alice</i></u> Who's Alice?: pp. 382-383 Extending Exponentiation: pp. 388-399