

Standard 1 • Number Sense and Computation

Expectations	<i>Interactive Mathematics Program, Year 1</i>
IM1.1.1 Compare real number expressions.	YEAR 1 <u><i>Patterns</i></u> Numbers to Functions: pp. 24 Putting It Together: pp. 57-59
IM1.1.2 Simplify square roots using factors.	YEAR 2 <u><i>Do Bees Build it Best?</i></u> Corral Problem: pp. 245
IM1.1.3 Understand and use the distributive, associative, and commutative properties.	YEAR 1 <u><i>Patterns</i></u> Numbers to Functions: pp. 24-26
IM1.1.4 Use the laws of exponents for rational exponents.	YEAR 2 <u><i>All About Alice</i></u> Extending Exponentiation: pp. 393-395 “Curiouser & Curiouser!”: pp. 406-411 Turning Exponents Around: pp. 416-420
IM1.1.5 Use dimensional (unit) analysis to organize conversions and computations.	YEAR 1 <u><i>Overland Trail</i></u> Journey Back in Time: pp. 205-209 Setting Out With Variables: pp. 211-221

Standard 2 • Algebra and Functions

Expectations	<i>Interactive Mathematics Program, Year 1</i>
IM1.2.1 Solve linear equations.	YEAR 1 <u><i>Overland Trail</i></u> Journey Back in Time: pp. 203-204 Making Predictions With Graphs: pp. 239-251
IM1.2.2 Solve equations and formulas for a specific variable.	YEAR 1 <u><i>Overland Trail</i></u> Calculators on the Trail?: pp. 253-268 YEAR 2 <u><i>Solve It!</i></u> Linear World: pp. 71, 75-76 <u><i>Cookies</i></u> Using the Feasible Region: pp. 337
IM1.2.3 Find solution sets of linear inequalities when possible numbers are given for the variable.	YEAR 2 <u><i>Cookies</i></u> Cookies & Inequalities: pp. 307-310
IM1.2.4 Solve linear inequalities using properties of order.	YEAR 2 <u><i>Cookies</i></u> Cookies & Inequalities: pp. 305-310
IM1.2.5 Solve word problems that involve linear equations, formulas, and inequalities.	YEAR 1 <u><i>Game of Pig</i></u> In the Long Run: pp. 134, 139-140 <u><i>Overland Trail</i></u> Journey Back in Time: pp. 203-204 Making Predictions With Graphs: pp. 239-251 Calculators on the Trail?: pp. 253-273 How Fast Should You Go?: pp. 275-280 YEAR 2 <u><i>Cookies</i></u> Picturing Cookies: pp. 312-314, 323-324
IM1.2.6 Sketch a reasonable graph for a given relationship.	YEAR 1 <u><i>Overland Trail</i></u> Graph Tells a Story: pp. 223-235 Calculators on the Trail?: pp. 258 <u><i>Pit & the Pendulum</i></u> Standard Pendulum: pp. 357-359, 362-363 Graphs & Equations: pp. 367

Expectations	<i>Interactive Mathematics Program, Year 1</i>
	Measuring & Predicting: pp. 376
IM1.2.7 Interpret a graph representing a given situation.	YEAR 1 <u><i>Overland Trail</i></u> Graph Tells a Story: pp. 223-235
IM1.2.8 Understand the concept of a function, decide if a given relation is a function and link equations to functions.	YEAR 1 <u><i>Patterns</i></u> Numbers to Functions: pp. 14-16 Investigating Sums: pp. 30-31 Angle on Patterns: pp. 47-48
IM1.2.9 Find the domain and range of a relation.	YEAR 1 <u><i>Overland Trail</i></u> Graph Tells a Story: pp. 227-228
IM1.2.10 Graph a linear equation.	YEAR 1 <u><i>Overland Trail</i></u> Making Predictions With Graphs: pp. 239-251 How Fast Should You Go?: pp. 279-280 California at Last!: pp. 284 <u><i>Pit & the Pendulum</i></u> Graphs & Equations: pp. 369-370, 372
IM1.2.11 Find the slope, x-intercept and y-intercept of a line given its graph, its equation, or two points on the line.	YEAR 1 <u><i>Overland Trail</i></u> Making Predictions With Graphs: pp. 239-251 Calculators on the Trail?: pp. 256-257 YEAR 2 <u><i>Solve It!</i></u> Linear World: pp. 72-73 <u><i>Cookies</i></u> Using the Feasible Region: pp. 329 YEAR 3 <u><i>Small World, Isn't It?</i></u> All in a Row: pp. 299-301
IM1.2.12 Write the equation of a line in slope-intercept form. Understand how the slope and y-intercept are related to the equation.	YEAR 1 <u><i>Overland Trail</i></u> Making Predictions With Graphs: pp. 239-251 Calculators on the Trail?: pp. 256-257 YEAR 2 <u><i>Solve It!</i></u> Linear World: pp. 72-73

Expectations	<i>Interactive Mathematics Program, Year 1</i>
	<p><u><i>Cookies</i></u> Using the Feasible Region: pp. 329</p> <p>YEAR 3</p> <p><u><i>Small World, Isn't It?</i></u> All in a Row: pp. 299-301</p>
IM1.2.13 Write the equation of a line given appropriate information.	<p>YEAR 1</p> <p><u><i>Overland Trail</i></u> Making Predictions With Graphs: pp. 239-251 Calculators on the Trail?: pp. 256-257</p> <p><u><i>Pit & the Pendulum</i></u> Graphs & Equations: pp. 369-370, 372</p>
IM1.2.14 Write the equation of a line that models a given situation and use (or the graph of the line) to make predictions. Describe the slope of the line in terms of the given situation, recognizing that the slope is the rate of change.	<p>YEAR 1</p> <p><u><i>Overland Trail</i></u> Making Predictions With Graphs: pp. 239-251 Calculators on the Trail?: pp. 256-257</p>
IM1.2.15 Use the graph to estimate the solution of a pair of linear equations in two variables.	<p>YEAR 1</p> <p><u><i>Overland Trail</i></u> Calculators on the Trail?: pp. 272-273 How Fast Should You Go?: pp. 275-280 California at Last!: pp. 284</p>
IM1.2.16 Understand and use the substitution method to solve a pair of linear equations in two variables.	<p>YEAR 2</p> <p><u><i>Cookies</i></u> Points of Intersection: pp. 340, 342-343, 346</p>
IM1.2.17 Understand and use the addition or subtraction method to solve a pair of linear equations in two variables.	<p>YEAR 3</p> <p><u><i>Meadows or Malls?</i></u> Equations, Equations, Equations: pp. 199-206</p>
IM1.2.18 Understand and use multiplication with the addition or subtraction method to solve a pair of linear equations in two variables.	<p>YEAR 3</p> <p><u><i>Meadows or Malls?</i></u> Equations, Equations, Equations: pp. 199-206</p>
IM1.2.19 Use pairs of linear equations to solve word problems	<p>YEAR 1</p> <p><u><i>Overland Trail</i></u></p>

Expectations	<i>Interactive Mathematics Program, Year 1</i>
problems.	Calculators on the Trail?: pp. 272-273 How Fast Should You Go?: pp. 275-280 California at Last!: pp. 284
IM1.2.20 Add and subtract polynomials.	YEAR 2 <u>Solve It!</u> What's the Same?: pp. 39-49, 54-66 YEAR 3 <u>Meadows or Malls?</u> Equations, Equations, Equations: pp. 199-206 YEAR 4 <u>World of Functions</u> Back to Arithmetic: pp. 309-313
IM1.2.21 Multiply and divide monomials.	YEAR 2 <u>Solve It!</u> What's the Same?: pp. 39-49, 54-66
IM1.2.22 Find powers and roots of monomials (only when the answer has an integer exponent).	YEAR 3 <u>Small World, Isn't It?</u> Best Base: pp. 345-346
IM1.2.23 Multiply polynomials.	YEAR 2 <u>Solve It!</u> What's the Same?: pp. 43-44 YEAR 4 <u>World of Functions</u> Back to Arithmetic: pp. 309-313
IM1.2.24 Divide polynomials by monomials.	Not covered
IM1.2.25 Understand and describe the relationships among the solutions of an equation, the zeros of a function, the x-intercepts of a graph, and the factors of a polynomial expression.	YEAR 1 <u>Overland Trail</u> Making Predictions With Graphs: pp. 239-251 YEAR 2 <u>Solve It!</u> Linear World: pp. 72-73 YEAR 3 <u>Fireworks</u> World of Quadratics: pp. 11-12 Factoring & Solving: pp. 19-21

Expectations	<i>Interactive Mathematics Program, Year 1</i>
IM1.2.24 Graph quadratic, cubic, and radical equations.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Graphs & Equations: pp. 367-369, 371-372 Measuring & Predicting: pp. 374-376
IM1.2.26 Solve quadratic equations by using the quadratic formula.	YEAR 4 <u><i>High Dive</i></u> Falling Start: pp. 73-74
IM1.2.27 Use quadratic equations to solve word problems.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Standard Pendulum: pp. 362-363 Graphs & Equations: pp. 367 YEAR 2 <u><i>Solve It!</i></u> Beyond Linearity: pp. 80, 82
IM1.2.28 Use graphing technology to find approximate solutions of quadratic and cubic equations.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Standard Pendulum: pp. 362-363 YEAR 2 <u><i>Solve It!</i></u> Keeping Things Balanced: pp. 36 Beyond Linearity: pp. 80, 82, 84-90
IM1.2.29 Graph exponential functions.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Standard Pendulum: pp. 369 YEAR 2 <u><i>All About Alice</i></u> Who's Alice?: pp. 385-386 "Curiouser & Curiouser!": pp. 402-403
IM1.2.30 Solve word problems involving applications of exponential functions to growth and decay.	YEAR 2 <u><i>All About Alice</i></u> Who's Alice?: pp. 385-386 YEAR 3 <u><i>Small World, Isn't It?</i></u> Model for Populations Growth: pp. 328-331, 335-337 Best Base: pp. 347-348, 350-351, 354-355 Back to the Data: pp. 357, 359-360

Standard 3 • Geometry and Measurement

Expectations	<i>Interactive Mathematics Program, Year 1</i>
IM1.3.1 Identify and describe convex, concave, and regular polygons.	YEAR 1 <u>Patterns</u> Angle on Patterns: pp. 50-54
IM1.3.2 Apply transformations (slides, flips, and turns) to polygons in order to decide congruence, similarity, symmetry, and tessellations. Know that images formed by translations are congruent to the original image.	YEAR 1 <u>Shadows</u> Geometry of Shadows: pp. 415-416, 419, 422-423 Triangles Galore: pp. 425 YEAR 2 <u>Do Bees Build it Best?</u> Special Property of Right Triangles: pp. 234-236 Back to Bees: pp. 271
IM1.3.3 Find and use measures of sides, perimeter, and areas of polygons, and relate these measures to each other using formulas.	YEAR 1 <u>Shadows</u> What is a Shadow?: pp. 409-410 Geometry of Shadows: pp. 415-419 Triangles Galore: pp. 430 YEAR 2 <u>Do Bees Build it Best?</u> Area, Geoboards, & Trigonometry: pp. 202-218 Special Property of Right Triangles: pp. 238-240 Corral Problem: pp. 242-244, 246
IM1.3.4 Use properties of congruent and similar quadrilaterals to solve problems involving lengths and areas.	Not covered
IM1.3.5 Find and use measures of sides, perimeters, and areas of quadrilaterals, and relate these measures to each other using formulas.	YEAR 2 <u>Do Bees Build it Best?</u> Area, Geoboards, & Trigonometry: pp. 211-212 Corral Problem: pp. 243
IM1.3.6 Prove and use the Pythagorean Theorem.	YEAR 2 <u>Do Bees Build it Best?</u> Special Property of Right Triangles: pp. 226, 228-233, 238-239
IM1.3.7 Describe relationships between the faces, edges, and	Not covered

Expectations	<i>Interactive Mathematics Program, Year 1</i>
vertices of polyhedra.	
IM1.3.8 Describe symmetries of geometric solids.	Not covered

Standard 4 • Data Analysis and Statistics

Expectations	<i>Interactive Mathematics Program, Year 1</i>
IM1.4.1 Construct a line plot.	YEAR 1 <u><i>Game of Pig</i></u> Game of Chance & Strategy: pp. 102-103 Flip, Flip: pp. 107 Pictures of Probability: pp. 123 <u><i>Pit & the Pendulum</i></u> Poe – Master of Suspense: pp. 318-321 Statistics & the Pendulum: pp. 325, 327
IM1.4.2 Find measures of central tendency for a set of data.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Statistics & the Pendulum: pp. 335-347, 350-351 Standard Pendulum: pp. 354, 360
IM1.4.3 Find skewness and symmetry from a graph of data.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Poe – Master of Suspense: pp. 318-321 Statistics & the Pendulum: pp. 325, 327-330
IM1.4.4 Construct a histogram using a graphing calculator.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Statistics & the Pendulum: pp. 327
IM1.4.5 Identify clusters, gaps, and outliers for a set of data.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Poe – Master of Suspense: pp. 318-321 Statistics & the Pendulum: pp. 325, 327-330
IM1.4.6 Find a linear transformation.	Not covered
IM1.4.7 Construct a stem-and-leaf plot using a graphing calculator.	Not covered
IM1.4.8 Find the mean absolute deviation for a set of data.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Statistics & the Pendulum: pp. 335-338
IM1.4.9 Find the standard deviation and describe its properties.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Statistics & the Pendulum: pp. 333-347
IM1.4.10 Construct a frequency table for a set of data.	YEAR 1 <u><i>Game of Pig</i></u>

Expectations	<i>Interactive Mathematics Program, Year 1</i>
	Game of Chance & Strategy: pp. 102-103 Flip, Flip: pp. 107 <u><i>Pit & the Pendulum</i></u> Poe – Master of Suspense: pp. 318-321 Statistics & the Pendulum: pp. 325, 327
IM1.4.11 Summarize and interpret sets of data using center and variability.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Poe – Master of Suspense: pp. 318-321 Statistics & the Pendulum: pp. 325, 328-332
IM1.4.12 Construct a scatterplot from a set of data.	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
IM1.4.13 Calculate the sum of squared differences for a set of data.	YEAR 1 <u><i>Pit & the Pendulum</i></u> Statistics & the Pendulum: pp. 337-338, 343-347, 350-351
IM1.4.14 Plot the least square regression line from a set of data.	YEAR 1 <u><i>Overland Trail</i></u> Making Predictions With Graphs: pp. 239-251 Calculators on the Trail?: pp. 259-260
IM1.4.15 Compare sets of data using scatterplots and the line $y = x$, and interpret these comparisons for real-world data.	Not covered
IM1.4.16 Recognize patterns in tables and graphs that are modeled by linear equations.	YEAR 1 <u><i>Patterns</i></u> Numbers to Functions: pp. 15-16 Investigating Sums: pp. 30-31, 47-48 <u><i>Overland Trail</i></u> Making Predictions With Graphs: pp. 239-251 Calculators on the Trail?: pp. 259-260

Standard 5 • Probability

Expectations	<i>Interactive Mathematics Program, Year 1</i>
IM1.5.1 Design and use simulations in order to estimate answers related to probability.	<p>YEAR 1</p> <p><u><i>Game of Pig</i></u></p> <p>Game of Chance & Strategy: pp. 96-103 Flip, Flip: pp. 105-113 Pictures of Probability: pp. 115-126 In the Long Run: pp. 128-149 Little Pig: pp. 151-156 Back to Pig: pp. 158-163</p>
IM1.5.2 Use empirical (experimental) and theoretical probabilities.	<p>YEAR 1</p> <p><u><i>Game of Pig</i></u></p> <p>Game of Chance & Strategy: pp. 96-98 Flip, Flip: pp. 105-106 Pictures of Probability: pp. 119-120, 122 In the Long Run: pp. 136, 145-148</p>
IM1.5.3 Understand independent events.	<p>YEAR 1</p> <p><u><i>Game of Pig</i></u></p> <p>Flip, Flip: pp. 105-6, 108-109 Pictures of Probability: pp. 119-120, 122 In the Long Run: pp. 135-138</p>
IM1.5.4 Use the Law of Large Numbers to understand situations involving chance.	<p>YEAR 1</p> <p><u><i>Game of Pig</i></u></p> <p>In the Long Run: pp. 128-131, 137-140, 142-149 Little Pig: pp. 156</p>
IM1.5.5 Understand the concept of a probability distribution. Understand how an approximate probability can be constructed using simulation involving chance.	<p>YEAR 1</p> <p><u><i>Game of Pig</i></u></p> <p>Game of Chance & Strategy: pp. 102-103 Flip, Flip: pp. 107 Pictures of Probability: pp. 123</p> <p><u><i>Pit & the Pendulum</i></u></p> <p>Poe – Master of Suspense: pp. 318-321 Statistics & the Pendulum: pp. 327-332</p> <p>YEAR 2</p> <p><u><i>Is There Really a Difference?</i></u></p> <p>Coins & Dice: pp. 128-130 Tool for Measuring Differences: pp. 148-150</p>

Standard 6 • Discrete Mathematics

Expectations	<i>Interactive Mathematics Program, Year 1</i>
IM1.6.1 Construct vertex-edge graph models involving relationships among a finite number of elements.	Not covered
IM1.6.2 Construct digraphs.	Not covered
IM1.6.3 Use Euler paths and circuits to solve real-world problems.	Not covered
IM1.6.4 Develop the skill of algorithmic problem solving: designing, using, and analyzing systematic procedures for problem solving.	<p>YEAR 1</p> <p><u><i>Patterns</i></u> Numbers to Functions: pp. 17-18, 22 Angle on Patterns: pp. 45</p> <p><u><i>Game of Pig</i></u> Little Pig: pp. 151-156</p> <p><u><i>Overland Trail</i></u> Journey Back in Time: pp. 198-199</p> <p><u><i>Pit & the Pendulum</i></u> Poe – Master of Suspense: pp. 308-315, 317 Standard Pendulum: pp. 353-356, 360 Measuring & Predicting: pp. 374, 376</p> <p><u><i>Shadows</i></u> Lights & Shadows: pp. 455-457</p>
IM1.6.5 Use a recursion function to describe an exponential function.	Not covered
IM1.6.6 Use a variety of recursion equations to describe a function.	<p>YEAR 1</p> <p><u><i>Patterns</i></u> Getting Started: pp. 9 Numbers to Functions: pp. 15-21</p>
IM1.6.7 Use a recursion function to describe a fractal.	Not covered
IM1.6.8 Use an adjacency matrix to describe a vertex-edge graph.	Not covered
IM1.6.9 Perform row and column sums for matrix	Not covered

Expectations	<i>Interactive Mathematics Program, Year 1</i>
equations.	

Standard 7 • Mathematical Reasoning and Problem Solving

Expectations	<i>Interactive Mathematics Program, Year 1</i>
<p>IM1.7.1 Use a variety of problem solving strategies, such as drawing a diagram, making a chart, guess-and-check, solving a simpler problem, writing an equation, and working backwards.</p>	<p>YEAR 1</p> <p><u><i>Game of Pig</i></u> Little Pig: pp. 151-156 Back to Pig: pp. 158-163</p> <p><u><i>Overland Trail</i></u> Setting Out With Variables: pp. 213</p> <p><u><i>Pit & the Pendulum</i></u> Poe – Master of Suspense: pp. 323 Statistics & the Pendulum: pp. 326, 344-346</p> <p><u><i>Shadows</i></u> What is a Shadow?: pp. 412 Lights & Shadows: pp. 455-457, 459</p>
<p>IM1.7.2 Decide whether a solution is reasonable in the context of the original situation.</p>	<p>YEAR 1</p> <p><u><i>Patterns</i></u> Angle on Patterns: pp. 50</p> <p><u><i>Game of Pig</i></u> In the Long Run: pp. 135-140, 144-149</p> <p><u><i>Overland Trail</i></u> Journey Back in Time: pp. 209 Setting Out With Variables: pp. 216-219</p> <p><u><i>Pit & the Pendulum</i></u> Measuring & Predicting: pp. 376</p> <p><u><i>Shadows</i></u> Geometry of Shadows: pp. 418</p>
<p>IM1.7.3 Use the properties of the real number system and the order of operations to justify the steps of simplifying functions and solving equations.</p>	<p>YEAR 2</p> <p><u><i>Solve It!</i></u> Keeping Things Balanced: pp. 20-22, 28 What’s the Same?: pp. 39-49, 54-59</p>
<p>IM1.7.4 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 set as the original. Understand that similar logic</p>	<p>YEAR 2</p> <p><u><i>Solve It!</i></u> Keeping Things Balanced: pp. 20-22, 28 What’s the Same?: pp. 60-66</p> <p><u><i>Cookies</i></u> Points of Intersection: pp. 340-343, 346</p>

Expectations	<i>Interactive Mathematics Program, Year 1</i>
applies to solving systems of equations simultaneously.	
IM1.7.5 Decide whether a given algebraic statement is true always, sometimes, or never (statements involving linear or quadratic expressions, equations, inequalities).	YEAR 2 <u><i>Solve It!</i></u> Keeping Things Balanced: pp. 20-21, 28, 37 What's the Same?: pp. 40-41
IM1.7.6 Distinguish between inductive and deductive reasoning, identifying, and providing examples of each.	YEAR 2 <u><i>All About Alice</i></u> Who's Alice?: pp. 382-383 Extending Exponentiation: pp. 397-399 "Curiouser & Curiouser!": pp. 401-403, 404-405
IM1.7.7 Use counterexamples to show that statements are false, recognizing that a single counterexample is sufficient to prove a general statement false.	YEAR 1 <u><i>Shadows</i></u> Geometry of Shadows: pp. 417, 422-423 Triangles Galore: pp. 425, 428-429, 431-434