

An IM K–12 Math™ Curriculum



# Integrated 3

## Table of Contents

The Imagine IM Integrated 3 Table of Contents includes details for the Units, Sections, and Lessons for the full year course.





## Imagine IM Integrated 3

Imagine IM offers the latest IM v. 360 curricula optimized for engagement, accessibility, and usability. The comprehensive Integrated 1, 2, and 3 series will include a suite of print and digital resources for teachers and students.

The Imagine IM Integrated 3 Table of Contents includes the Unit, Section & Lesson titles and sequence for the full year course.

This Table of Contents is for review and evaluation purposes only. Minor edits or adjustments could be reflected in the final product.

# Imagine IM Integrated 3

## Table of Contents



### Unit 1 Solid Geometry

#### **Section A: Cross-Sections, Scaling, and Area**

Lesson 1	Solids
Lesson 2	Solids of Rotation
Lesson 3	Slicing Solids
Lesson 4	Creating Cross-Sections by Dilating
Lesson 5	Scaling and Area
Lesson 6	Scaling and Unscaling

#### **Section B: Scaling Solids**

Lesson 7	Scaling Solids
Lesson 8	The Root of the Problem
Lesson 9	Speaking of Scaling

#### **Section C: Prism and Cylinder Volumes**

Lesson 10	Volume
Lesson 11	Cylinder Volumes
Lesson 12	Cross-Sections and Volume
Lesson 13	Prisms Practice

#### **Section D: Understanding Pyramid Volumes**

Lesson 14	Prisms and Pyramids
Lesson 15	Building a Volume Formula for a Pyramid
Lesson 16	Working with Pyramids
Lesson 17	Putting All the Solids Together

#### **Section E: Let's Put It to Work**

Lesson 18	Surface Area and Volume
Lesson 19	Volume and Density
Lesson 20	Volume and Graphing

### Unit 2 Polynomial Functions

#### **Section A: What Is a Polynomial?**

Lesson 1	Let's Make a Box
Lesson 2	Funding the Future
Lesson 3	Introducing Polynomials
Lesson 4	Combining Polynomials

#### **Section B: Working with Polynomials**

Lesson 5	Connecting Factors and Zeros
Lesson 6	Different Forms
Lesson 7	Using Factors and Zeros

#### **Section C: Graphs of Polynomials**

Lesson 8	End Behavior (Part 1)
Lesson 9	End Behavior (Part 2)
Lesson 10	Multiplicity
Lesson 11	Finding Intersections

#### **Section D: Polynomial Division**

Lesson 12	Polynomial Division (Part 1)
Lesson 13	Polynomial Division (Part 2)
Lesson 14	What Do You Know about Polynomials?
Lesson 15	The Remainder Theorem

# Imagine IM Integrated 3

## Table of Contents



### Unit 3 Rationals, Radicals, and Identities

#### **Section A: Rational Functions**

- Lesson 1 Minimizing Surface Area
- Lesson 2 Graphs of Rational Functions (Part 1)
- Lesson 3 Graphs of Rational Functions (Part 2)
- Lesson 4 End Behavior of Rational Functions

#### **Section B: Rational Equations**

- Lesson 5 Rational Equations (Part 1)
- Lesson 6 Rational Equations (Part 2)
- Lesson 7 Solving Rational Equations

#### **Section C: Solving Equations with Square and Cube Roots**

- Lesson 8 Inequivalent Equations?
- Lesson 9 Cubes and Cube Roots
- Lesson 10 Solving Radical Equations

#### **Section D: Identities**

- Lesson 11 Polynomial Identities (Part 1)
- Lesson 12 Polynomial Identities (Part 2)
- Lesson 13 A Radical Identity
- Lesson 14 Summing Up
- Lesson 15 Using the Sum

#### **Section E: Let's Put It to Work**

- Lesson 16 Drawing Proportional Circles

# Imagine IM Integrated 3

## Table of Contents



### Unit 4 Exponential Functions and Equations

#### **Section A: Growing and Shrinking**

- Lesson 1 Growing and Shrinking
- Lesson 2 Representations of Growth and Decay
- Lesson 3 Understanding Rational Inputs
- Lesson 4 Representing Functions at Rational Inputs
- Lesson 5 Changes Over Rational Intervals
- Lesson 6 Writing Equations for Exponential Functions
- Lesson 7 Interpreting and Using Exponential Functions

#### **Section B: Missing Exponents**

- Lesson 8 Unknown Exponents
- Lesson 9 What Is a Logarithm?
- Lesson 10 Interpreting and Writing Logarithmic Equations
- Lesson 11 Evaluating Logarithmic Expressions

#### **Section C: The Constant**

- Lesson 12 The Number
- Lesson 13 Exponential Functions with Base
- Lesson 14 Solving Exponential Equations

#### **Section D: Logarithm Rules**

- Lesson 15 Logarithm Product Rule
- Lesson 16 Logarithm Quotient Rule
- Lesson 17 Logarithm Power Rule
- Lesson 18 Logarithm Change of Base Rule
- Lesson 19 Using Logarithm Rules

#### **Section E: Logarithmic Functions and Graphs**

- Lesson 20 Using Graphs and Logarithms to Solve Problems (Part 1)
- Lesson 21 Using Graphs and Logarithms to Solve Problems (Part 2)
- Lesson 22 Logarithmic Functions

#### **Section F: Let's Put It to Work**

- Lesson 23 Applications of Logarithmic Functions

# Imagine IM Integrated 3

## Table of Contents



### Unit 5 Transformations of Functions

#### **Section A: Translations, Reflections, and Symmetry**

- Lesson 1 Matching Up to Data
- Lesson 2 Moving Functions
- Lesson 3 More Movement
- Lesson 4 Reflecting Functions
- Lesson 5 Some Functions Have Symmetry
- Lesson 6 Symmetry in Equations
- Lesson 7 Expressing Transformations of Functions Algebraically

#### **Section B: Scaling Outputs and Inputs**

- Lesson 8 Scaling the Outputs
- Lesson 9 Scaling the Inputs
- Lesson 10 Combining Functions

#### **Section C: Transformations of Functions**

- Lesson 11 Transforming from an Original Function
- Lesson 12 Transformation Effects
- Lesson 13 Transforming Parabolas
- Lesson 14 Transforming Circles

#### **Section D: Let's Put It to Work**

- Lesson 15 Making a Model for Data

# Imagine IM Integrated 3

## Table of Contents



### Unit 6 Trigonometric Functions

#### **Section A: The Unit Circle**

- Lesson 1 Moving in Circles
- Lesson 2 Revisiting Right Triangles
- Lesson 3 The Unit Circle (Part 1)
- Lesson 4 The Unit Circle (Part 2)
- Lesson 5 The Pythagorean Identity (Part 1)
- Lesson 6 The Pythagorean Identity (Part 2)
- Lesson 7 Finding Unknown Coordinates on a Circle

#### **Section B: Periodic Functions**

- Lesson 8 Rising and Falling
- Lesson 9 Introduction to Trigonometric Functions
- Lesson 10 Beyond
- Lesson 11 Extending the Domain of Trigonometric Functions
- Lesson 12 Tangent
- Lesson 13 Some New Ratios

#### **Section C: Trigonometry Transformations**

- Lesson 14 Amplitude and Midline
- Lesson 15 Transforming Trigonometric Functions
- Lesson 16 Features of Trigonometric Graphs (Part 1)
- Lesson 17 Features of Trigonometric Graphs (Part 2)
- Lesson 18 Comparing Transformations
- Lesson 19 Modeling Circular Motion

#### **Section D: Let's Put It to Work**

- Lesson 20 Beyond Circles

# Imagine IM Integrated 3

## Table of Contents



### Unit 7 Statistical Inferences

#### **Section A: A Study Types**

- Lesson 1 Being Skeptical
- Lesson 2 Study Types
- Lesson 3 Randomness in Groups

#### **Section B: DISTRIBUTIONS**

- Lesson 4 Describing Distributions
- Lesson 5 Normal Distributions
- Lesson 6 Areas in Histograms
- Lesson 7 Areas under a Normal Curve

#### **Section C: Not All Samples Are the Same**

- Lesson 8 Not Always Ideal
- Lesson 9 Variability in Samples
- Lesson 10 Estimating Proportions from Samples
- Lesson 11 Estimating a Population Mean

#### **Section D: Analyzing Experimental Data**

- Lesson 12 Experimenting
- Lesson 13 Using Normal Distributions for Experiment Analysis
- Lesson 14 Questioning Experimenting

#### **Section D: Let's Put It to Work**

- Lesson 15 Heart Rates