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EDITION 13

Introductory Algebra

ANNOTATED INSTRUCTOR'S EDITION

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1 17

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Contents

Index of Animations vii
Preface ix
Index of Applications xv

JUST-IN-TIME REVIEW 1

1 All Factors of a Number 2
2 Prime Factorizations 3
3 Greatest Common Factor 4
4 Least Common Multiple 5
5 Equivalent Expressions and Fraction Notation 7
6 Mixed Numerals 8
7 Simplify Fraction Notation 9
8 Multiply and Divide Fraction Notation 10
9 Add and Subtract Fraction Notation 12
10 Convert from Decimal Notation to Fraction Notation 14
11 Add and Subtract Decimal Notation 15
12 Multiply and Divide Decimal Notation 16
13 Convert from Fraction Notation to Decimal Notation 17
14 Rounding with Decimal Notation 18
15 Convert Between Percent Notation and Decimal Notation 19
16 Convert Between Percent Notation and Fraction Notation 21
17 Exponential Notation 23
18 Order of Operations 24

1 INTRODUCTION TO REAL NUMBERS AND ALGEBRAIC EXPRESSIONS 27

1.1 Introduction to Algebra 28
1.2 The Real Numbers 35
1.3 Addition of Real Numbers 46
1.4 Subtraction of Real Numbers 54

Mid-Chapter Review 61

1.5 Multiplication of Real Numbers 63
1.6 Division of Real Numbers 70
1.7 Properties of Real Numbers 79
1.8 Simplifying Expressions; Order of Operations 92

Summary and Review 101
Test 107

2 SOLVING EQUATIONS AND INEQUALITIES 109

2.1 Solving Equations: The Addition Principle 110
2.2 Solving Equations: The Multiplication Principle 116
2.3 Using the Principles Together 122
2.4 Formulas 133

Mid-Chapter Review 141

2.5 Applications of Percent 143
2.6 Applications and Problem Solving 151

Translating for Success 162

2.7 Solving Inequalities 168
2.8 Applications and Problem Solving with Inequalities 180

Summary and Review 188
Test 193
Cumulative Review 195

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3 GRAPHS OF LINEAR EQUATIONS 197

3.1 Graphs and Applications of Linear Equations 198
3.2 More with Graphing and Intercepts 215

Visualizing for Success 220

3.3 Slope and Applications 226
3.4 Equations of Lines 237

Mid-Chapter Review 243

3.5 Graphing Using the Slope and *y*-Intercept 245
3.6 Parallel Lines and Perpendicular Lines 251
3.7 Graphing Inequalities in Two Variables 256

Visualizing for Success 260
Summary and Review 263
Test 271
Cumulative Review 275

4 POLYNOMIALS: OPERATIONS 277

4.1 Integers as Exponents 278
4.2 Exponents and Scientific Notation 288
4.3 Introduction to Polynomials 300
4.4 Addition and Subtraction of Polynomials 313

Mid-Chapter Review 321

4.5 Multiplication of Polynomials 323
4.6 Special Products 330

Visualizing for Success 336

4.7 Operations with Polynomials in Several Variables 341
4.8 Division of Polynomials 350

Summary and Review 357
Test 363
Cumulative Review 365

5 POLYNOMIALS: FACTORING 367

5.1 Introduction to Factoring 368
5.2 Factoring Trinomials of the Type $x^2 + bx + c$ 376
5.3 Factoring $ax^2 + bx + c$, $a \neq 1$: The FOIL Method 384
5.4 Factoring $ax^2 + bx + c$, $a \neq 1$: The ac-Method 394

Mid-Chapter Review 400

5.5 Factoring Trinomial Squares and Differences of Squares 402
5.6 Factoring: A General Strategy 412
5.7 Solving Quadratic Equations by Factoring 420
5.8 Applications of Quadratic Equations 428

Translating For Success 433
Summary and Review 439
Test 445
Cumulative Review 447

6 RATIONAL EXPRESSIONS AND EQUATIONS 449

6.1 Multiplying and Simplifying Rational Expressions 450
6.2 Division and Reciprocals 460
6.3 Least Common Multiples and Denominators 465
6.4 Adding Rational Expressions 469
6.5 Subtracting Rational Expressions 477

Mid-Chapter Review 485

6.6 Complex Rational Expressions 487
6.7 Solving Rational Equations 493
6.8 Applications Using Rational Equations and Proportions 501

Translating for Success 508

6.9 Direct Variation and Inverse Variation 515

Summary and Review 524
Test 531
Cumulative Review 533

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7 SYSTEMS OF EQUATIONS 535

7.1 Systems of Equations in Two Variables 536
7.2 The Substitution Method 543
7.3 The Elimination Method 550

Mid-Chapter Review 558

7.4 Applications and Problem Solving 560
7.5 Applications with Motion 571

Translating for Success 575
Summary and Review 578
Test 583
Cumulative Review 585

8 RADICAL EXPRESSIONS AND EQUATIONS 587

8.1 Introduction to Radical Expressions 588
8.2 Multiplying and Simplifying with Radical Expressions 596
8.3 Quotients Involving Radical Expressions 604

Mid-Chapter Review 611

8.4 Addition, Subtraction, and More Multiplication 613
8.5 Radical Equations 621
8.6 Applications with Right Triangles 629

Translating for Success 632
Summary and Review 635
Test 641
Cumulative Review 643

9 QUADRATIC EQUATIONS 645

9.1 Introduction to Quadratic Equations 646
9.2 Solving Quadratic Equations by Completing the Square 654
9.3 The Quadratic Formula 663

Mid-Chapter Review 669

9.4 Formulas 671
9.5 Applications and Problem Solving 677

Translating for Success 680

9.6 Graphs of Quadratic Equations 685

Visualizing for Success 689

9.7 Functions 693

Summary and Review 704
Test 709
Cumulative Review 711

APPENDIXES 717

A Factoring Sums or Differences of Cubes 718
B Finding Equations of Lines: Point–Slope Equation 722
C Higher Roots 726
D Sets 730
E Mean, Median, and Mode 734
F Inequalities and Interval Notation 737

Answers A-1
Guided Solutions A-31
Glossary G-1
Index I-1

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Index of Animations

Section	Title
1.2d	Order on the Number Line
2.7b	Graphing Inequalities
3.1d	Graphing Linear Equations
3.3a	Slope
3.3a	Slope of a Line
3.4a	Slope–Intercept Form
3.4a	Equations of Lines: Slope–Intercept Form
3.7b	Linear Inequalities in Two Variables
4.1f	Negative Exponents
4.6c	Special Products
5.7b	Intercepts and Solutions
6.8a	Motion Problems
7.4a	Mixture Problems
9.6a	Graphs of Quadratic Functions
9.6b	Intercepts and Solutions
9.7c	Graphing Functions
Appendix B	Equations of Lines: Point–Slope Form

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Preface

Math doesn't change, but students' needs and the way students learn – do.

With this in mind, *Introductory Algebra,* 13th Edition, continues the Bittinger tradition of objective-based, guided learning, while integrating many updates with the proven pedagogy. (These updates are motivated by feedback that we received from students and instructors, as well as our own experience in the classroom.) In this edition, our focus is on guided learning and retention: helping each student (and instructor) get the most out of all the available program resources—wherever and whenever they engage with the math.

We believe that student success in math hinges on four key areas: **Foundation, Engagement, Application,** and **Retention**. In the 13th Edition, we have added key new program features (highlighted below, for quick reference) in each area to make it easier for each student to personalize his or her learning experience. In addition, you will recognize many proven features and presentations from the previous edition of the program.

FOUNDATION

Studying the Concepts

Students can learn the math concepts by reading the textbook or the etext, participating in class, watching the videos, working in the *MyMathGuide* workbook—or using whatever combination of these course resources works best for them.

In order to understand new math concepts, students must recall and use skills and concepts previously studied. To support student learning, we have integrated two important new features throughout the 13th Edition program:

- ***New!*** **Just-in-Time Review** at the beginning of the text and the etext is a set of quick reviews of the key topics from previous courses that are prerequisites for the new material in this course. A note on each Chapter Opener alerts students to the topics they should review for that chapter. In MyLab Math, students will find a concise presentation of each topic in the **Just-in-Time Review Videos.**
- ***New!*** **Skill Review,** in nearly every section of the text and the etext, reviews a previously presented skill at the objective level where it is key to learning the new material. This feature offers students two practice exercises with answers. In MyLab Math, new **Skill Review Videos,** created by the Bittinger author team, offer a concise, stepped-out solution for each Skill Review exercise.

Margin Exercises with Guided Solutions, with fill-in blanks at key steps in the problem-solving process, appear in nearly every text section and can be assigned in MyLab Math.

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Algebraic–Graphical Connections in the text draw explicit connections between the algebra and the corresponding graphical visualization.

Introductory Algebra Video Program, our comprehensive program of objective-based, interactive videos, can be used hand-in-hand with your *MyMathGuide* workbook. **Interactive Your Turn exercises** in the videos prompt students to solve problems and receive instant feedback. These videos can be accessed at the section, objective, and example levels.

MyMathGuide offers students a guided, hands-on learning experience. This objective-based workbook (available in print and in MyLab Math) includes vocabulary, skill, and concept review—as well as problem-solving practice with space for students to fill in the answers and stepped-out solutions to problems, to show (and keep) their work, and to write notes. Students can use *MyMathGuide,* while watching the videos, listening to the instructor's lecture, or reading the text or the etext, in order to reinforce and self-assess their learning.

Studying for Success sections are checklists of study skills designed to ensure that students develop the skills they need to succeed in math, school, and life. They are available at the beginning of selected sections.

ENGAGEMENT

Making Connections through Active Exploration

Since understanding the big picture is key to student success, we offer many active learning opportunities for the practice, review, and reinforcement of important concepts and skills.

- ☐ ***New!*** **Chapter Opener Applications** with infographics use current data and applications to present the math in context. Each application is related to exercises in the text to help students model, visualize, learn, and retain the math.
- ☐ ***New!*** **Student Activities,** included in each chapter, have been developed as multistep, data-based activities for students to learn the math in the context of an authentic application. Student Activities are available in *MyMathGuide* and in MyLab Math.
- ☐ ***New!*** **Interactive Animations** can be manipulated by students in MyLab Math through guided and open-ended exploration to further solidify their understanding of important concepts.

Translating for Success offers extra practice with the important first step of the process for solving applied problems. **Visualizing for Success** asks students to match an equation or an inequality with its graph by focusing on characteristics of the equation or the inequality and the corresponding attributes of the graph. Both of these activities are available in the text and in MyLab Math.

Technology Connection is an optional feature in each chapter that helps students use a calculator to perform calculations and to visualize concepts.

Learning Catalytics uses students' mobile devices for an engagement, assessment, and classroom intelligence system that gives instructors real-time feedback on student learning.

APPLICATION

Reinforcing Understanding

As students explore the math, they have frequent opportunities to apply new concepts, practice, self-assess, and reinforce their understanding.

Margin Exercises, labeled "Do Exercise . . . ," give students frequent opportunities to apply concepts just discussed by solving problems that parallel text examples.

Exercise Sets in each section offer abundant opportunity for practice and review in the text and in MyLab Math. The section exercises are grouped by objective for easy use, and each set includes the following special exercise types:

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- ***New!*** **Check Your Understanding** with **Reading Check** and **Concept Check** exercises, at the beginning of each exercise set, gives students the opportunity to assess their grasp of the skills and concepts before moving on to the objective-based section exercises. In MyLab Math, many of these exercises use drag & drop functionality.
- **Skill Maintenance Exercises** offer a thorough review of the math in the preceding sections of the text.
- **Synthesis Exercises** help students develop critical-thinking skills by requiring them to use what they know in combination with objectives from the current and previous sections.

RETENTION

Carrying Success Forward

Because continual practice and review is so important to retention, we have integrated both throughout the program in the text and in MyLab Math.

- ***New!*** **Skill Builder Adaptive Practice,** available in MyLab Math, offers each student a personalized learning experience. When a student struggles with the assigned homework, Skill Builder exercises offer just-in-time additional adaptive practice. The adaptive engine tracks student performance and delivers to each individual questions that are appropriate for his or her level of understanding. When the system has determined that the student has a high probability of successfully completing the assigned exercise, it suggests that the student return to the assigned homework.

Mid-Chapter Review offers an opportunity for active review midway through each chapter. This review offers four types of practice problems:

Concept Reinforcement, Guided Solutions, Mixed Review, and Understanding Through Discussion and Writing

Summary and Review is a comprehensive learning and review section at the end of each chapter. Each of the five sections—**Vocabulary Reinforcement** (fill-in-the-blank), **Concept Reinforcement** (true/false), **Study Guide** (examples with stepped-out solutions paired with similar practice problems), **Review Exercises**, and **Understanding Through Discussion and Writing**—includes references to the section in which the material was covered to facilitate review.

Chapter Test offer students the opportunity for comprehensive review and reinforcement prior to taking their instructor's exam. **Chapter Test-Prep Videos** in MyLab Math show step-by-step solutions to the questions on the chapter test.

Cumulative Review follows each chapter beginning with Chapter 2. These revisit skills and concepts from all preceding chapters to help students retain previously presented material.

Pearson MyLab

Resources for Success

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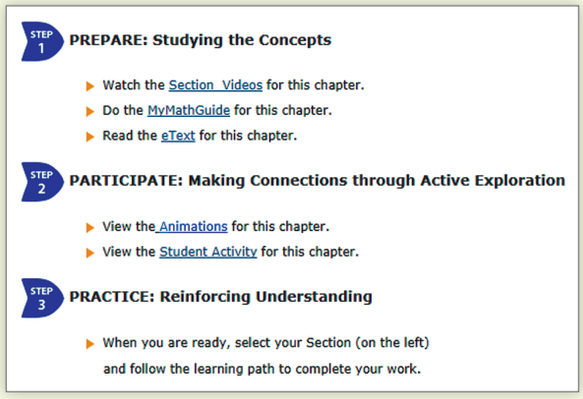
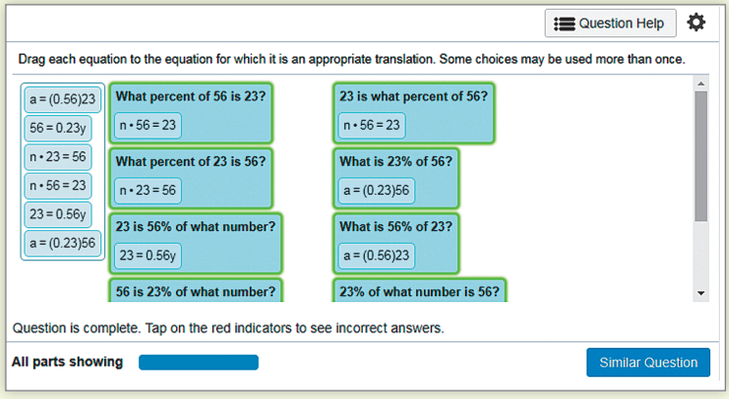
MyLab Math Online Course for Bittinger, Beecher, and Johnson, *Introductory Algebra*, 13th Edition (access code required)

MyLab™ Math is available to accompany Pearson's market-leading text offerings. To give students a consistent tone, voice, and teaching method, the pedagogical approach of the text is tightly integrated throughout the accompanying MyLab Math course, making learning the material as seamless as possible.

UPDATED! Learning Path

Structured, yet flexible, the updated learning path highlights author-created, faculty-vetted content—giving students what they need exactly when they need it. The learning path directs students to resources such as two new types of video: **Just-in-Time Review** (concise presentations of key topics from previous courses) and **Skills Review** (author-created exercises with stepped-out solutions that reinforce key prerequisite skills), both available in the Multimedia Library and assignable in MyLab Math.



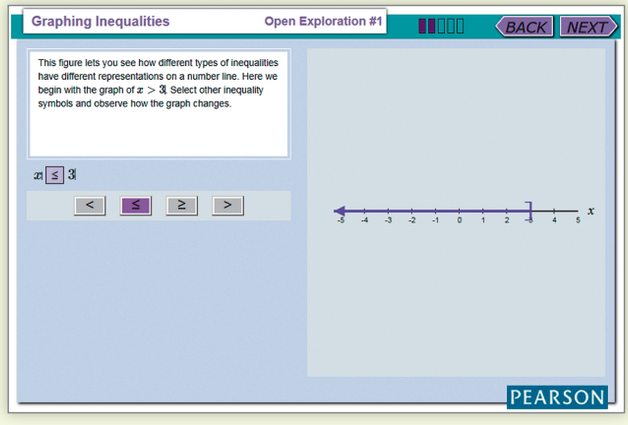


NEW! Drag-and-Drop Exercises

Drag-and-drop exercises are now available in MyLab Math. This new assignment type allows students to drag answers and values within a problem, providing a new and engaging way to test students' concept knowledge.

NEW and UPDATED! Animations

New animations encourage students to learn key concepts through guided and open-ended exploration. Animations are available through the learning path and multimedia library, and they can be assigned within MyLab Math.



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Resources for Success

Instructor Resources

Additional resources can be downloaded from **www.pearsohhighered.com** or hardcopy resources can be ordered from your sales representative.

Annotated Instructor's Edition

ISBN: 0134718151

- Answers to all text exercises.
- Helpful teaching tips, including suggestions for incorporating Student Activities in the course

Instructor's Resource Manual with Tests and Minilectures

(download only)
ISBN: 0134718313

- Resources designed to help both new and experienced instructors with course preparation and class management.
- Chapter teaching tips and support for media supplements.
- Multiple versions of multiplechoice and free-response chapter tests, as well as final exams.

Instructor's Solutions Manual

(download only)
By Judy Penna
ISBN: 0134718240

The *Instructor's Solutions Manual* has detailed, worked-out solutions to all odd-numbered text exercises. In addition, brief solutions for even-numbered exercises available.

PowerPoint® Lecture Slides

(download only)

- Editable slides present key concepts and definitions from the text.
- Available to both instructors and students.
- Fully accessible.

TestGen®

TestGen enables instructors to build, edit, print, and administer tests using a computerized test bank of questions developed to cover all the objectives of the text. (www.pearsoned.com/testgen)

Student Resources

Additional resources to help student success.

Introductory Algebra Lecture Videos

- Concise, interactive, and objective-based videos.
- View a whole section, choose an objective, or go straight to an example.

Chapter Test Prep Videos

- Step-by-step solutions for every problem in the chapter tests.

Just-in-Time Review Videos

- One video per review topic in the Just-in-Time Review at the beginning of the text.
- View examples and worked-out solutions that parallel the concepts reviewed in each review topic.

Skill Review Videos

Students can review previously presented skills at the objective level before moving forward in the content. Videos are accompanied by two practice exercises with answers.

MyMathGuide: Notes, Practice, and Video Path

ISBN: 013471833X

- Guided, hands-on learning in a workbook format with space for students to show their work and record their notes and questions.
- Highlights key concepts, skills, and definitions; offers quick reviews of key vocabulary terms with practice problems, examples with guided solutions, similar Your Turn exercises, and practice exercises with readiness checks.
- Includes student activities utilizing real data.
- Available in MyLab Math and as a printed manual.

Student's Solutions Manual

ISBN: 0134718178
By Judy Penna

- Includes completely worked-out annotated solutions for odd-numbered exercises in the text, as well as all the exercises in the Mid-Chapter Reviews, the Summary and Reviews, the Chapter Tests, and the Cumulative Reviews.
- Available in MyLab Math and as a printed manual.

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Our goal in writing this textbook was to make mathematics accessible to every student. We want you to be successful in this course and in the mathematics courses you take in the future. Realizing that your time is both valuable and limited, and that you learn in a uniquely individual way, we employ a variety of pedagogical and visual approaches to help you learn in the best and most efficient way possible. We wish you a positive and successful learning experience.

Marv Bittinger
Judy Beecher
Barbara Johnson