Pathways to Math Literacy, 2e

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What's New in the Second Edition?

For those that are familiar with the first edition of *Pathways,* you may have noticed that we seem to have put on some weight. (The book, not Dave and Brian.) We thought it would be a good idea to discuss the variety of reasons for the increase in size.

First, we improved the layout of the book in a couple of subtle but important ways. Many instructors contacted us to say that there wasn't enough space for students to write the kind of thoughtful responses that we hope for, so we spaced out the questions quite a bit more where appropriate. We also found the layout of the **Portfolio** to be very awkward for our students: when they turned in their **Applications,** the Portfolio came along with it and they no longer had access to the **Technology, Reflections,** or **Looking Ahead** questions. That's been rectified by expanding the Portfolio to a second page.

Speaking of expansion, we've added a few new features based on four years' worth of feedback from our wonderful users. Probably the most common request we got was for extra problems that students could practice on, so the **Did You Get It?** feature was born. Whenever a key concept has been covered, we insert an extra question or two to help students reinforce that concept. Answers are included at the end of each lesson, and solutions videos can be found in the online resources. These aren't intended to be in-class activities: they're reinforcement for students who feel that some extra practice would be helpful.

The next new feature is **Prep Skills** for each lesson. In the first edition, the online skills problems were divided into "Prep" and "Practice" categories, but in this edition we took prep to a whole new level. Each lesson begins with a list of specific skills that are needed for that lesson, along with some exposition, solved sample questions, and a list of problems for students to work on. Again, the answers are provided at the end of each lesson, and solutions videos can be found online. (The problems can be worked online as well, of course.) We've found that students with many different academic backgrounds and levels of preparation are taking Math Literacy courses, so a mechanism for letting both students and instructors know exactly what's needed for success in each lesson should help to level the playing field.

The third new feature is end of unit materials. In order to wrap up units and help students prepare for unit exams, we've written extensive summary materials. This starts with an interactive review of all key terms and formulas: rather than just asking students to read yet another list of definitions, we're asking them to test their

knowledge of key terms with accessible fill-in-the-blank questions. Next comes a summary of all the learning objectives from the lesson, along with pages of review problems that are similar to those covered within the unit. For units in which new technology skills were particularly important, a tech review is included as well.

Finally, the most obvious way to expand the size of a book is to add new content. This is probably least responsible for our expansion, but we did add some new topics that were requested over the last few years. These topics include gathering and organizing data, expected value and weighted averages, and margin of error in polling. On the algebraic side, there are new expanded sections covering inequalities, systems of equations, and finding linear equations using the point-slope form.

We also did a pretty substantial reorganization of the original topics, again based on feedback from too many generous users to count. While we still believe that a solid foundation in numeracy should come first, we made an effort to incorporate more algebraic skills a bit earlier. This allows much more flexibility in the types of problems students can solve, and also helps to build their algebra skills gradually over the course of the semester.

If you have a moment, please drop us a line and let us know how you feel about the new edition of *Pathways.* Improvement is a never-ending process, and your feedback will allow us to continue on that pathway. Pun intended.

Pathways to Math Literacy Worktext Features

- **NEW Prep Skills:** Appearing directly before nearly every lesson in this book, this new feature provides every unique learner with the knowledge and skills he or she will need to successfully complete the next lesson in the course.
- **NEW Did You Get It?:** Allowing students the opportunity to perform frequent self-checks for understanding and mastery, this new feature is sprinkled throughout lessons to cover the most critical mathematical concepts in the book.
- **Portfolio:** This 2-page section, found near the end of every lesson in the book and printed strategically so that it can be removed by students as needed without affecting other book content, gives students an excellent record of their knowledge and achievements within each lesson. It's also a useful item for instructors to collect as desired, and can be a wonderful study tool at the end of the term.
- **Technology:** The use of technology does not have to be crutch for math students and act as a barrier to success; it should instead *enhance* their mastery of mathematical content, provide opportunity for enrichment and further exploration, and help prepare them for success beyond the classroom. The Technology boxes, videos, and assignments littered throughout *Pathways* lessons aim to achieve all of these objectives.
- **Online Practice:** An enormous bank of adaptive, algorithmic exercises on McGraw-Hill Education's powerful digital learning platforms gives students almost endless opportunities for skills practice as they work on problems that are carefully programmed to mesh seamlessly with the writing and instructional style of the authors.
- **Applications:** In a context-based course, application problems are paramount among homework problems. The problems in the Applications portion of each lesson can be completed on paper and handed in, or can be done online. In either case, the focus is on why the mathematical skills students have studied are useful in their lives.
- **Reflections:** Successful math students—and indeed, successful people—get in the habit of constantly engaging in self-reflection. These critical open-ended questions, located in the Portfolio section of each lesson, help students review mathematical content from the lesson, articulate the purpose of learning that content, and determine what concepts they might still need to continue reviewing and working on to master moving forward.

- **Looking Ahead:** This feature, which appears at the end of the Portfolio section within each lesson, helps ensure continuity and alignment for students as they transition from one lesson to the next throughout the program.

Pathways to Math Literacy Additional Resources for Instructors

- **NEW Quick Start Guide:** This concise tool gives instructors everything they need to successfully implement *Pathways to Math Literacy* with outstanding results starting immediately Day 1, even with minimal prep time available.
- **Annotated Instructor Edition (Includes teaching tips and exercise answers)**
- **Instructor Notes for each lesson:** Created by Brian Mercer, these notes walk an instructor through each lesson sharing an overview, best practices, and common student challenges.
- **Solutions videos:** Solutions videos for every problem in the book are available for the instructor to distribute as needed. (Solutions PowerPoints are also available as needed.)
- **"Math Literacy in action!":** Since not everyone is able to make the trip to Parkland College, Brian Mercer has recorded several of his classes to help instructors get an idea for what a typical class looks like.
- **First Day of Class Presentation:** This resource assists instructors in helping to set up expectations and goals of the course.
- **Unit Exams/TestGen test bank software**
- **Other valuable resources:** These include group projects, evaluations forms, and sample rubrics.

Pathways to Math Literacy Additional Resources for Students

- **NEW SmartBook with Learning Resources:** This powerful digital resource provides students with an assignable, adaptive eBook and study tool that directs them to the content they don't know and helps them study more efficiently.
- **NEW Over 500 new algorithmic skills practice and homework exercises available through ConnectMath Hosted by ALEKS**
- **NEW Dozens of new online videos—in addition to the over 300 such videos that already exist—in a comprehensive online video series, all of which are tied directly to problems from *Pathways to Math Literacy***
- **Expanded ALEKS Math Literacy Pie:** In support of the expanded content in the book, we've expanded content in the math literacy pie as well, which now includes up to 788 topics that students can learn. ALEKS is able to identify what students know and don't know upon entering the course and puts them on a personalized path to success that is aligned with the material you include in the course.
- **Excel Support:** The consistent integration of technology activities is supported by student resources. Author-created video tutorials walk students through all new Excel skills learned in the course, and Excel templates help students get started on Technology assignments.
- **Unit Exam reviews**
- **eBook (rich in media features)**

**Digital homework and practice, along with all resources, are available through ConnectMath Hosted by ALEKS and ALEKS*

1-5 Portfolio

Name _____

Check each box when you've completed the task. Remember that your instructor will want you to turn in the portfolio pages you create.

Technology

1. ☐ Use Excel to create two different scatter diagrams for the ordered pairs in the table on page 71. The first should just have the points; the second should connect the points with curves. A template to help you get started can be found in the online resources for this lesson.

Online Practice

1. ☐ Include any written work from the online assignment along with any notes or questions about this lesson's content.

Applications

1. ☐ Complete the Applications problems.

Reflections

Type a short answer to each question.

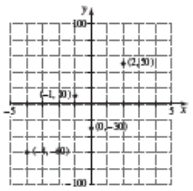
1. ☐ If someone says that the point of graphing is plotting points and connecting the dots, how would you explain to him how very, very wrong he is? It'll be tough, but try to be nice.
2. ☐ Why do you think we use the word "ordered" in "ordered pair"?
3. ☐ Explain the advantages of graphed data over data in table form.
4. ☐ Name one thing you learned or discovered in this lesson that you found particularly interesting.
5. ☐ What questions do you have about this lesson?

Looking Ahead

1. ☐ Complete the Prep Skills for Lesson 1-6.
2. ☐ Read the opening paragraph in Lesson 1-6 carefully and answer Question 0 in preparation for that lesson.

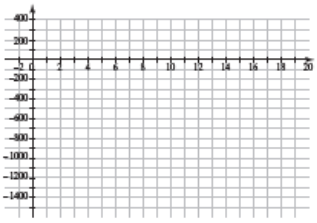
Answers to "Did You Get It?"

1.



2. It looks a little above $3, maybe $3.10 or so. This isn't as precise as the $3.09 we can get from the table.

3.



Answers to Prep Skills

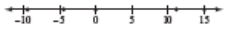
1. a. 12–19 b. Anyone in the 35–44 range

   c. From ages 12–19 to 20–34 the rate increases, but then the rate decreases as age goes up.

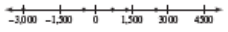
2.

Hours since 12 P.M.	0	1	2	3	4	5	6	7	8

3. a.



b.



The improved 2-page portfolio in each lesson helps reinforce student learning.