



# Mathematics, Grade 7 (MATH) 7A Syllabus

## Course Name

MATH 7A

Mathematics, Grade 7 – Semester A

## Course Information

MATH 7A is the first semester of this two-semester course.

Welcome to Math 7A! This course will provide basic real-world mathematical concepts and prepare you for 8th grade math. Each lesson contains examples that will be used in your everyday lives. Math is all around us and we build upon what we've learned. That means everything we've learned is still true! We will build on that and make connections that will help us as we apply mathematics. We need math in everything we do — buying, selling, counting, measuring, or problem-solving (just to name a few). Math is about understanding relationships between numbers and making connections between different concepts. Since math is a step-by-step process, if you try to omit steps or proceed before you understand what you're doing, you won't understand concepts further along in the course; so when you hit a snag, you should slow down and study carefully before you continue.

Before beginning the lessons, take the time to read and study the design of your textbook. There are 7 Units and 14 Modules in this textbook. MATH 7A will cover Units 1-4 and Modules 1-8. Be sure to read pages TX10 and TX11. These two pages will help you navigate through the sections in the book and know where to find extra help when needed. (One source of help is [Holt McDougal Online](#); be sure to bookmark it in your web browser.) In the back of the book, you will also find sections labeled Selected Answers, Glossary, and Index.

Also, read through and study the Problem Solving Model (page TX12). Throughout this course you will be encouraged to use the four-step problem-solving plan outlined in this section. This will give you a simple yet effective framework for organizing your work in the process of solving a problem. It is vital to remember the following key phrases: Analyze Information; Formulate a Plan; Solve; and Justify and Evaluate.

Keep in mind that you need to have a positive attitude, study hard, read all the assignments in your textbook and course lessons, and never be afraid to ask for help or clarification. Also, some of the lessons in the textbook have a reference for online help. The online tutorials are very helpful and a tool that you may want to use. My goal for this course is to empower each student with the knowledge and skills necessary to be successful in their high school career. I believe that having a strong mathematical background is one of the most powerful assets that you can possess.

## Course Delivery Method

Online

## Contacting Your Instructor

You may contact your instructor through the Blackboard messaging system. Technical support is available 24/7 at [www.k12.ttu.edu](http://www.k12.ttu.edu).

## Course TEKS and Objectives

The course objectives covered in Math 7A are in the Texas Essential Knowledge and Skills (TEKS) as mandated by the Texas Education Agency. Each lesson has stated objectives.

After completing this course, you should be able to:

1. extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers;
2. add, subtract, multiply, and divide rational numbers fluently;
3. apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers;
4. represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including  $d = rt$ ;
5. calculate unit rates from rates in mathematical and real-world problems;
6. determine the constant of proportionality within mathematical and real world problems;
7. solve problems involving ratios, rates, and percent, including multi-step problems involving percent increase and percent decrease, and financial literacy problems;
8. convert between measurement systems, including the use of proportions and the use of unit rates;
9. calculate and compare simple interest and compound interest earnings;
10. generalize the critical attributes of similarity, including ratios within and between similar shapes;
11. describe  $\pi$  as the ratio of the circumference of a circle to its diameter;
12. solve mathematical and real-world problems involving similar shape and scale drawings;

13. represent sample spaces for simple and compound events using lists and tree diagrams;
14. select and use different simulations to represent simple and compound events with and without technology;
15. make predictions and determine solutions using experimental data for simple and compound events;
16. find the probabilities of a simple event and its complements and describe the relationship between the two;
17. solve problems using qualitative and quantitative predictions and comparisons from simple experiments;
18. determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces;
19. make predictions and determine solutions using theoretical probability for simple and compound events;
20. represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form  $y = mx + b$ ;
21. write one-variable, two-step equations and inequalities to represent constraints or conditions within problems;
22. represent solutions for one-variable, two-step equations and inequalities on number lines;
23. write a corresponding real-world problem given one-variable, two-step equations and inequalities and;
24. determine if the given value(s) make(s) one-variable, two-step equations and inequalities true.

In addition the Mathematical Process Standards will be intertwined in all lesson objectives. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

1. apply mathematics to problems arising in everyday life, society, and the workplace;
2. use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
3. select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
4. communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
5. create and use representations to organize, record, and communicate mathematical ideas;
6. analyze mathematical relationships to connect and communicate mathematical ideas; and

7. display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

MATH 7 addresses the required Texas Essential Knowledge and Skills (TEKS). These can be found at the [Texas Education Agency](#) website.

## Textbook and Materials

### **Textbook(s)**

The required digital textbook for this course is:

- Burger, Edward B., et al. (2015). *Texas GoMath! Grade 7*. Orlando, FL: Houghton Mifflin Harcourt. ISBN 0-544-10179-0.

This digital textbook can only be purchased through the TTU K-12 partner bookstore. You can find the link to the bookstore on the [TTU K-12 website](#). Once you have purchased the digital textbook, you will receive a username and password via email. You will log in at [Holt McDougal Online](#) to access your textbook.

If you would like a printed book, you can purchase the optional printed text:

- Burger, Edward B., et al. (2015). *Texas GoMath! Grade 7*. Orlando, FL: Houghton Mifflin Harcourt. ISBN 978-0-544-05087-7.

Please note that you will not be able to access any of the digital resources if you purchase only the printed textbook.

Before you begin your course, take a few minutes and review the *Help Center* in the upper right-hand corner of your textbook dashboard. This section provides *Getting Started*, *Quick Start Guide*, and *Help* links. These resources will teach you how to navigate your digital textbook.

Open the *Student Online Edition*. This will provide you with all of the information that you will need for the course. This textbook was designed and chosen so that you can actively participate in your learning with your digital text, explore concepts, take notes, and answer practice questions in your digital textbook.

At the beginning of each module, you will find two sections labeled **Are YOU Ready?** that prepares you for starting the unit. You will also find a section titled **Unpacking the TEKS**. This section will give you an opportunity to understand the TEKS and the vocabulary terms in the TEKS to help you know exactly what you are expected to learn in the module.

### **PDF assignments**

You will submit all lessons for this course electronically. Your work for each lesson will need to be saved as a PDF in order to submit the lesson for grading. See

**Requirements for Creating PDFs** in the Syllabus section of your course for information on PDF-creation options.

### ***Other required materials***

- lined notebook paper
- pencils and erasers
- graph paper
- notebook/folder

## **Technical Requirements**

- Internet access – preferably high speed (for accessing Blackboard)
- Email
- Word processing software such as Microsoft Word
- Adobe Reader (download from [Adobe.com](http://Adobe.com))
- Audio and video capabilities (for watching/listening to course content)
- Digital camera or scanner
- PDF app (free options available)

## **Technical Skill Requirements**

Be comfortable with the following:

- using a word processor
- Internet search engines and browsers
- creating PDFs (see **Requirements for Creating PDFs** in the Syllabus section of your course)

## **Course Organization**

This course consists of five lessons and a final examination. Each lesson contains the following:

- Introduction and Instructions
- Learning Objectives and Curriculum Standards
- Learning Activities
- Assignments

Each lesson includes several activities that present content knowledge. Each lesson also includes multiple graded assignments to ensure that you learn the content that has been presented in the activities. Be sure you read all instructions carefully and ask your instructor for help if something is not clear.

For each lesson, you should read the Introduction and Lesson Objectives. The Introduction prepares you for the content of each chapter, and the Lesson Objectives explain the skills and concepts you'll learn from the lesson. The How to Proceed section provides step-by-step instructions on how to complete your lessons. Follow carefully the instructions in How to Proceed. Test your skills with the Q&A questions that you will see periodically throughout the course. Make sure you grasp the concept before reading any further.

Finally, you must complete and send in the **Section Assignments** for grading (see **Submitting Assignments** in this Syllabus). You must submit **all** of the Assignments before you can take the final examination.

## Submitting Assignments

Be sure to follow the instructions below when preparing your section assignments for grading.

- All assignments for this course will be submitted in Blackboard.
- Begin each lesson's assignment on a clean sheet of notebook paper. Do *not* use frayed spiral notebook paper.
- Complete your work in pencil. Make certain the marks are dark enough for a scanner or camera to pick up the text.
- Show your work (process) **down** your paper, **not across**. However, you may make two columns. **Do not write on the back of your paper.**
- Skip a line after each problem, and circle your answer(s).
- **Submit your completed work following the instructions for uploading assignments included with each lesson. Each lesson must be worked on notebook paper.**
- When you have completed the assignment, you will scan it or take a photograph of the pages and assemble the images into a **single PDF** to submit for grading (see **Requirements for Creating PDFs** in the Syllabus section of your course for information on PDF-creation options). Instructions are included in each lesson.
- Don't go too fast through a lesson or you will miss important information. *Don't forget — math takes time and practice, so don't give up.*

You will find a **Sample Lesson Assignment** in the **Resources** section of the course. Look at this sample before you begin Lesson One. Refer to it each time you begin a lesson until you are familiar with the format.

## Course Outline

Please note that some assignments will be hidden from you when you start the course. As you move through the lessons and complete assignments, more will unlock for you.

Lesson	Topic	Approximate Time for Completion
<b>Lesson 1</b>	Numbers and Operations & Ratios and Proportional Relationships: Part 1	Three weeks
<b>Lesson 2</b>	Ratios and Proportional Relationships: Part 2	Three weeks
<b>Lesson 3</b>	Probability	Three weeks
<b>Lesson 4</b>	Multiple Representations of Linear Relationships: Part 1	Three weeks
<b>Lesson 5</b>	Multiple Representations of Linear Relationships: Part 2	Four weeks
<b>Final Exam</b>		

## Assignment Schedule

Each of the following must be completed to complete the course. Items with an asterisk (\*) indicate that these are summative assessments for the course.

Lesson	Weeks	Assignments
<b>1</b>	1-3	Checkpoint 1 (Non-graded) Section 1.1 Assignment Upload Section 1.2 Assignment Upload Section 1.3 Assignment Upload Section 1.4 Assignment Upload Section 1.5 Assignment Upload Section 1.6 Assignment Upload *Module 1 Summative Assignment Section 2.1 Assignment Upload Section 2.2 Assignment Upload Section 2.3 Assignment Upload *Module 2 Summative Assignment
<b>2</b>	4-6	Section 3.1 Assignment Upload Section 3.2 Assignment Upload Section 3.3 Assignment Upload Section 3.4 Assignment Upload

<b>Lesson</b>	<b>Weeks</b>	<b>Assignments</b>
		*Module 3 Summative Assignment Section 4.1 Assignment Upload Section 4.2 Assignment Upload Section 4.3 Assignment Upload Section 4.4 Assignment Upload *Module 4 Summative Assignment
<b>3</b>	7-9	Section 5.1 Assignment Upload Section 5.2 Assignment Upload Section 5.3 Assignment Upload Section 5.4 Assignment Upload *Module 5 Summative Assignment Section 6.1 Assignment Upload Section 6.2 Assignment Upload Section 6.3 Assignment Upload Section 6.4 Assignment Upload *Module 6 Summative Assignment Checkpoint 2 (Non-graded)
<b>4</b>	10-12	Section 7.1 Assignment Upload Section 7.2 Assignment Upload *Module 7 Summative Assignment
<b>5</b>	13-16	Section 8.1 Assignment Upload Section 8.2 Assignment Upload Section 8.3 Assignment Upload Section 8.4 Assignment Upload *Module 8 Summative Assignment Checkpoint 3 (Non-graded)
		<b>Final Exam</b>

## Course Credit

The course grade will be calculated as follows:

- 50% coursework average;
- 50% summative assessment average, including the final exam;
- A passing course grade is 70 or higher.

Students must attempt all assignments in the course. The final exam will not be available until all assignments have been accepted and graded by the teacher.

Students who score below 70% on the final exam will be eligible for one re-exam opportunity.

## Coursework

The graded assignments within each lesson are formative in nature. This means that they are designed to assist you in applying and demonstrating the lesson concepts, as well as identifying areas in which you need additional review. You may use all the lesson's learning activities to assist you as you complete the graded assignments.

## Summative Assessments

Summative assessments are those that allow you to demonstrate mastery of the course objectives. For summative assessments, you will NOT be allowed to use the learning materials. These are opportunities for you to show what you have learned by that point in the course. Summative assessments may be proctored using the online proctoring system Proctorio. Information about Proctorio is provided in **Remote Proctoring** in the Syllabus section of your course. The summative assessments for this course are as follows:

- **Summative Assessments (20% of Course Grade)**
  - Module 1 Summative Assignment (42 points)
  - Module 2 Summative Assignment (32 points)
  - Module 3 Summative Assignment (50 points)
  - Module 4 Summative Assignment (22 points)
  - Module 5 Summative Assignment (26 points)
  - Module 6 Summative Assignment (28 points)
  - Module 7 Summative Assignment (22 points)
  - Module 8 Summative Assignment (44 points)
- **Summative Final Exam (30% of Course Grade)**

## Course Completion

- Students may not complete the course in less than 30 days.
- All courses expire six months after the enrollment date.

## Academic Integrity

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension.

“Scholastic dishonesty” includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of

essentially the same written assignment for two courses without the prior permission of the instructor) or the attempt to commit such an act.

## **Student Expectations**

You will be expected to log into the Blackboard course regularly to be aware of possible announcements/reminders and to pace your progress in the course.

Students are expected to maintain an online environment conducive to learning, which includes “netiquette” (Internet etiquette). Please review the basic rules for [Online Discussion Netiquette](#). Ensure that your email messages, discussion board postings, and other electronic communications are thoughtful and respectful. Diverse opinions are welcome in this course, and you are expected to demonstrate an open mind and courtesy when responding to the thoughts and ideas of others.

The following are prohibited:

- making offensive remarks in email or the discussion board;
- using inappropriate language or discussing inappropriate topics online;
- spamming;
- hacking;
- using TTU or Blackboard email or discussion boards for commercial purposes;
- using all caps (considered shouting in online communications); and
- cyber-bullying or online harassment of any type.

Inappropriate behavior shall result in consequences ranging from a request to correct the problem, to removal from the course or even the university, depending on the severity of the behavior. Disciplinary actions will be taken according to the TTU K-12 Student Handbook.

## **Communication**

- You can expect a reply from your instructor within 2 business days.
- Use the Blackboard Course Messages tool for sending messages to your instructor.

## **Submitting Assignments**

You will submit all assignments through the Blackboard Assignment Tool, rather than by mail or email.

## **Technical Difficulties**

### ***Getting Help***

For student assistance with Blackboard, visit [TTU K-12 Support](#).

### ***Computer Problems***

A working computer is necessary for online coursework. Computer problems will not be accepted as a valid reason for failure to complete course activities within the allotted time frame. Identify a second computer, before the course begins, that you can use if you experience computer problems.

### ***Server Problems***

When the Blackboard server needs to be taken down for maintenance, the Blackboard administrator will post an announcement in your course informing you of the time and date. If the server experiences unforeseen problems, your course instructor will notify you.

### ***Lost or Corrupted Files***

You must keep/save a copy of every project/assignment on an external disk or personal computer. In the event of any kind of technology failure (e.g., Blackboard server crash or virus infection, students' own computer problems, loss of files in cyberspace, etc.) or any disputes, the instructor may request or require you to resubmit the files. In some instances, the instructor may need to open another attempt within Blackboard, so communication with your instructor is critical in these circumstances.