

WGU GUIDE FOR SECONDARY MATH PRAXIS® AND STATE CONTENT EXAMS

Updated by WGU Secondary Education Math and Math Center Faculty

Start here

This guide will help you get started with your Praxis or state content exam study with free online learning resources. These resources are aimed at students planning to teach math for middle grades and for grades 9–12. Another WGU Guide has been prepared for elementary science teacher candidates. Work with a tutor if you can. Rely on your Mentor to help you stay on track with program requirements and deadlines. Passing high-stakes standardized tests is a team effort—you are not alone!

What are the topics covered in the guide?

Topics covered in this guide are:

- [FAQs: What to expect from any Math Praxis or State Content Exam](#)
- Discipline-specific content
 - [Middle School Mathematics \(5169\)](#)
 - [Mathematics: Content Knowledge \(5161\)](#)

FAQs: What to expect from any Math Praxis or state content exam

When should I take this exam?

Please work closely with your Mentor to determine when to begin Praxis or state content exam study, and when to schedule your first attempt. Give yourself at least 4 weeks of serious study before registering for the exam. There is a waiting period before you can retake the test. Keep this in mind while planning when to take your exam. The waiting period can be as long as 28 days. Please check the ETS website for the current waiting period.

Where can I take the exam?

You may take your Praxis or state content exam either at home with ProctorU or at a testing center; check exam websites for updated access and cost information. If you go to a testing center, follow the [ETS Testing Center Guidelines](#).

Before choosing to register and take your exam at home, be sure that your computer and testing room meet [ETS Equipment Requirements](#).

What COVID-19 (or other disease) protocols should I be aware of?

Please check with your local testing center before test day. If you are taking the exam at home, there may still be specific criteria to follow from the exam provider. At a testing center, you may need to [bring your own mask and/or proof of vaccination](#) and follow the [ETS Testing Center Guidelines](#). These directives will be similar for any state content exam.

Are there additional study guides?

Each Math Praxis or state content exam has a study guide or study companion provided by the publisher or by the state at no cost. If you need help locating the appropriate site for exam study materials, please contact Instructors in your specific discipline.

Can I use any calculator?

You will be allowed an appropriate on-screen calculator for the Middle School: Mathematics (5169) Praxis exam and for the Mathematics: Content Knowledge (5161) Praxis exam. You may not bring your own device. Please refer to the [ETS Calculator Use Policy](#).

You may practice with an approved on-screen calculator by using this [ETS online tutorial](#). Texas Instruments provides a 90-day free trial of their on-screen calculator [here](#).

Please follow the calculator use guidance or tutorials provided by your state or exam vendor for state content exams.

Can I use formula sheets?

Formula sheet usage varies by exam. Be sure to familiarize yourself for your relevant exam.

- Middle School Mathematics (5169) Praxis exam: Formula sheets are NOT provided.
- Mathematics: Content Knowledge (5161) Praxis exam: Formula sheets ARE provided.
 - For selected notations, definitions, and formulas that will be provided on the test, please **go to pages 23–25** of the [ETS Study Companion for the Mathematics: Content Knowledge \(5161\) Praxis exam](#).
- Please follow the guidance regarding formula sheets provided by your state or exam vendor for state content exams.

May I use anything else to help me?

You may use scratch paper at a testing center or a whiteboard at home. Scratch paper is not permitted for home testing. Be prepared to show both sides of the whiteboard to the proctor to show that it is clean; if the whiteboard is bolted to the wall, you will need to show that it cannot be removed. You may use only those materials provided to you or approved by the proctor, such as pencils or whiteboard pens and erasers. Otherwise, your work area must be completely clean.

What question formats are on the exam? Multiple-choice, short answer, essay, etc.?

The Middle School: Mathematics (5169) Praxis exam has selected-response, drag-and-drop, and numeric entry test items.

- Selected response refers to questions with multiple choice answer options. Most questions will be a standard format where you select one answer from four options. Some test items will have multiple correct answers.
- Drag-and-drop requires you to click on an answer and move it to a different part of the screen.
- Numeric entry allows you to type your response into a designated answer box.

The Mathematics: Content Knowledge (5161) Praxis exam has selected-response, numeric entry, drag-and-drop, text completion, and innovative question items.

- Selected response refers to questions with multiple choice answer options. Most questions will be of a standard format where you select one answer from four options. Other test items will have multiple correct answers.
- Numeric entry allows you to type your response into a designated answer box.
- Drag-and-drop requires you to click on an answer and move it to a different part of the screen.
- Text completion and innovative questions provide boxes in which you may type longer replies.

For examples of these question types, please watch these [Praxis Test Demonstration videos](#). Please follow the guidance regarding question formats provided by your state or exam vendor for state content exams.

Is there partial credit for answers that have multiple correct answers?

Some exam questions may involve multiple-choice items where you select more than one answer option; all responses must be correct, or the entire test item will be marked wrong. There is no partial credit.

Where can I get information about accommodations?

If you need accommodation(s) for disability, health or medical concern(s), or language concerns (PLNE/ESL), please refer to [ETS Disabilities Accommodations](#) and/or [ETS English Language Accommodations](#) pages for further

guidance on the application process, documentation requirements, and use of approved accommodations for subsequent Praxis tests. Testing center locations or dates may be limited. Start early; accommodations can take up to 12 weeks for ETS review. You can find contact information for directing disability-related questions here: [ETS Disability Services](#).

Is there a waiting period in between attempts?

There is usually a mandatory waiting period between attempts of the Praxis or state content exams; check exam websites for more specific information.

Discipline-specific content: Middle School Mathematics Praxis (5169)

Get organized: What do you know and need to know?

The [ETS Study Companion for Middle School Mathematics \(5169\)](#) Praxis exam includes very helpful information about the exam and preparation. We recommend reviewing these topics and identifying areas requiring further study:

- Page 5 describes the overall test, including the number of questions and time allowed.
- Page 6 reviews the calculator use policy.
- Pages 7–10 provide a detailed breakdown of content within each topic, which include:
 - Arithmetic and Algebra (62%)
 - Geometry and Data (38%)

Practice with approved tools: How confident are you with the on-screen calculator?

Be sure to download the free trial from Texas Instruments and practice using the on-screen calculator.

You can use the [on-screen TI-84](#) for 90 days. [You can learn how to use the on-screen calculator from the ETS calculator tutorial](#).

Use key resources: How can you fill key knowledge gaps?

There are substantial resources available at no cost, so paying for preparation resources is not typically necessary. Once you determine concept areas requiring review, here are some recommended resources:

Learning Express

[Core Math and Science Skills](#) This resource is in the WGU Library. You may need to enter your WGU credentials to access it.

- Use the sections for Algebra, Geometry, and Introductory Probability and Statistics.

Khan Academy:

- [Algebra 1](#)
- [Algebra 2](#)
- [Geometry](#)
- [Introductory Probability and Statistics](#)

Videos:

- [Mometrix test item walk-through](#) (this video is free; but other Mometrix content might not be)

Work through practice questions: Did you master the concepts?

Content knowledge is not enough! You need to practice solving sample test items and solving under timed conditions, as well as under testing limitations (eg. Using an approved calculator tool, white board, etc.). Consider your test-taking strategy while you work through sample questions from reliable sources.

- Start with the [ETS Middle School Mathematics Study Companion](#). Take the sample test on page 15.
- ETS offers two full-length practice exams available for purchase at the [Middle School Mathematics Praxis page](#).
 - You may [access them at no cost](#) if you are enrolled at WGU. Go to the WGU Library and enter your credentials.

Practice tests

You can access three Exam Edge practice tests in your course of study. Confer with your Course Instructor if you need assistance with these. We recommend taking these practice tests under test conditions to simulate an exam experience.

Need help? Reach out for assistance, if needed:

Please contact your WGU Instructors for guidance or send your request to mathsecondaryed@wgu.edu.

Discipline-specific content: Mathematics: Content Knowledge Praxis (5161)

Get organized: What do you know and need to know?

The [Study Companion for the Mathematics: Content Knowledge \(5161\) Praxis exam](#) includes very helpful information about the exam and preparation. We recommend reviewing these topics and identifying areas requiring further study.

- Page 5 describes the overall test, such as number of questions and time allowed.
- Page 6 reviews the calculator use policy.
- Pages 7–17 provide a detailed breakdown of content with each topic, which include:
 - Number and Quantity, Algebra, Functions and Calculus (68%)
 - Geometry, Probability and Statistics, and Discrete Mathematics (38%)

Practice with approved tools: How confident are you with the on-screen calculator?

Be sure to download the free trial from Texas Instruments and practice using the on-screen calculator.

You can use the [on-screen TI-84](#) for 90 days. [You can learn how to use the on-screen calculator from the ETS calculator tutorial.](#)

Use key resources: How can you fill key knowledge gaps?

Once you determine concept areas requiring review, here are some recommended resources:

Learning Express:

[Core Math and Science Skills](#) This resource is in the WGU Library. You may need to enter your WGU credentials to access it.

- Use the sections for Algebra, Geometry, Introductory Probability and Statistics, and Pre-Calculus and Calculus.

Khan Academy:

- [Algebra 1](#)
- [Algebra 2](#)
- [Geometry](#)
- [Introductory Probability and Statistics](#)
- [Pre-Calculus](#)
- [Calculus](#)

Videos:

- YouTube: [Patrick JMT](#)

Textbooks:

- Select what you need from [OpenStax Math](#).

Work through practice questions: Did you master the concepts?

Content knowledge is not enough! You need to practice solving sample test items and solving under timed conditions, as well as under testing limitations (eg. Using an approved calculator tool, white board, etc.). Consider your test-taking strategy while you work through sample questions from reliable sources.

- Start with the [ETS Mathematics Study Companion](#): take the sample test on page 22.
- ETS offers one full-length practice exam available for purchase at the [Mathematics Praxis site](#).
 - You may [access them at no cost](#) if you are enrolled at WGU. Go to the WGU Library and enter your credentials.

Need help? Reach out for assistance, if needed:

Please contact your WGU Instructors for guidance or send your request to mathsecondaryed@wgu.edu.