## Maple T.A.™ 10 Highlights

- **Mobile-accessible:** All Maple T.A. functionality is now accessible via standard web browsers on both computers and tablets, including iPad®, Android™ tablets, and more.

- **Completely redesigned interface:** Maple T.A. comes with a streamlined interface that incorporates customer feedback from both instructors and students to create a smooth workflow.

- **More technical question types:** Graph sketching, free body diagram, and Math App questions provide even more support for technical assessment.

## New Questions and Assignments

### Graph Sketching

With the new Sketch question type, instructors can ask students to sketch graphs, and Maple T.A. grades those graphs automatically.

- Students answer a question by sketching a plot.

- Parabolas, exponentials, asymptotes, lines, points, piecewise, open and closed intervals, and regions are all supported.

- Students create plots by simply clicking on key points of the plot in the graph area, such as specifying two points to draw a line, or the vertex and one other point to create a parabola.

- Plot control points can be moved interactively by dragging, which automatically adjusts the rest of the curve.

- Graph sketching questions can include curves that are part of the question itself, such as showing a curve and asking the student to draw a tangent to that line through a given point.
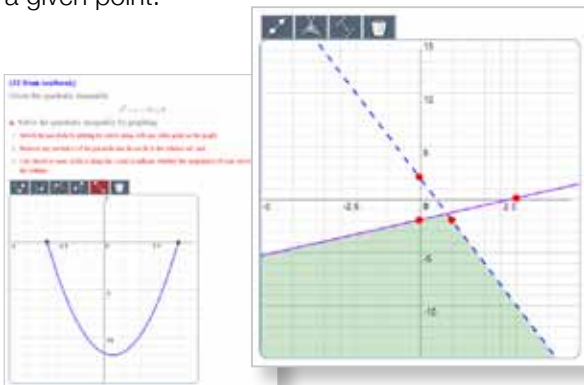
### Free Body Diagrams

Instructors in engineering and science can now ask questions that require students to draw free body diagrams, and Maple T.A. automatically grades the results.



- Students answer a question by drawing force arrows at appropriate locations and angles on an image illustrating the problem, such as a ramp, pulley, cart, truss, bridge, or other statics or dynamics problems.

- The student must specify the type of each force, such as gravity, normal, or friction, and show the direction of each force in relation to the object.

- The direction of each force is assessed within a specified tolerance.







**Maple T.A.™ 10**
Online Testing and Assessment

## Scoring Rubrics

Some types of assignments, such as oral presentations, obviously cannot be completed inside Maple T.A. However, with new scoring rubrics, instructors can use Maple T.A. to communicate the expectations for that assignment, record student grades, provide students with their results, and automatically include those grades in their overall results for the course.

- Create assignment rubrics in Maple T.A. for offline assignments and presentations.

- Present criteria, expectations, and rating values for each level in a standard rubric table.

- To grade the assignment, simply click on the achieved rating level for each criterion, and Maple T.A. calculates the final grade and stores the results.

- View rubrics from the students' class homepage, and view graded rubrics from the student and instructor gradebooks.



## Gradeable Math Apps

Gradeable Math App questions were introduced in Maple T.A. 9.5 as a technology preview. Now, with Maple T.A. 10, this feature is a fully supported question type.

- Maple T.A. can automatically grade interactive Maple applications called Math Apps.
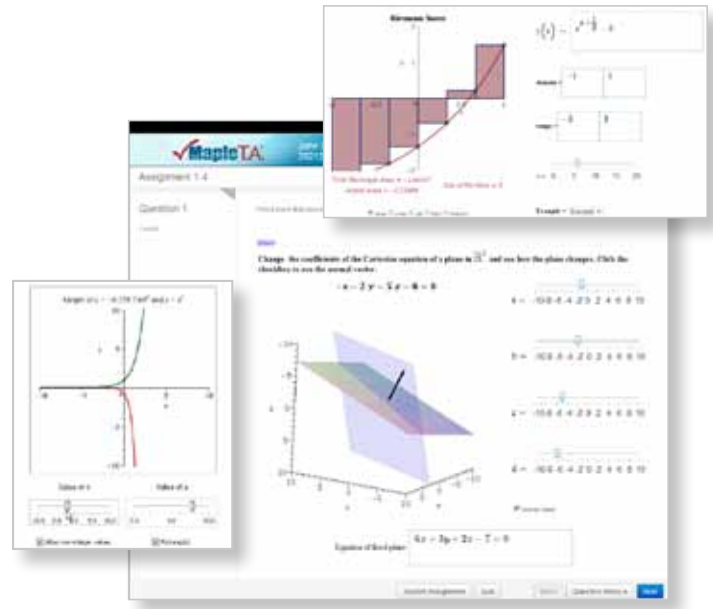


- With gradeable Math Apps, instructors can provide students with specialized calculators, ask them to manipulate parameters until they have found the desired solution, give them interactive plots to explore, and much more.

- With Maple T.A. 10, these questions no longer require the use of a Java™ plug-in, so they load faster, respond faster, and use less memory.

## Enhanced Usability

### Redesigned Interface

The Maple T.A. interface has been completely redesigned, incorporating customer feedback from both instructors and students to create a more streamlined workflow.

- Improved assignment navigation offers "next question" and "submit assignment" buttons that are always visible.

- Easier question creation eliminates the need for page flipping by putting all the elements of a question together on a single page.

- Page layout, menus, navigation, and general appearance have been enhanced and streamlined to create a smoother user experience.

### New Equation Editor – No Browser Plug-in Required

Maple T.A. 10 includes a new equation editor that works directly in the browser, eliminating the need for students and instructors to have a Java plug-in for their browsers.

- The new equation editor works directly in any supported browser, including mobile devices.

- Students can start working on assignments immediately, without being distracted by the need to install or update a Java plug-in.

- The equation editor, which is powered by HTML5, loads significantly faster than the previous editor, so there is no delay before it can be used.

### Customizable Interface

Maple T.A. 10 includes more options to customize what students see when they are in the Maple T.A. environment.

- Instructors can specify what information appears at the top of their class pages, such as class announcements, office hours, tutorial times and locations, and welcome videos.

- Administrators can change the look and feel of Maple T.A. using CSS and custom HTML, such as changing layouts and color schemes, as well as adding images, text, links, and videos.

### Easy Access to Practice Tests

Practice tests can be made easily accessible.

- Administrators can provide anonymous access to practice tests, so the tests can be accessed without having to log in to Maple T.A. first.

- Students at your institution can test themselves even if they are not logged in.

- Instructors working on new questions can easily send their content out for review.

## Administration

### Custom Roles

Roles in Maple T.A., such as "instructor" and "administrator," give different types of users different abilities in the system. Maple T.A. 10 lets administrators create new, customized role definitions.

- Create customized roles that expand or limit access to Maple T.A. functionality, such as defining a new instructor role that includes the ability to create new users, or a teaching assistant role that combines proctor-level access with the ability to create assignments.

- Easily choose from the built-in roles or the custom roles when setting up new accounts.

### Expanded Proctored Browser Support

The Proctored Browser, which provides a controlled environment for high-stakes student testing, has been expanded to work with more browsers and in more environments.

- Provides a controlled environment for high-stakes testing

- Available on Windows®, Mac OS® X, and Linux®

- Works with Firefox® and Google Chrome™

- Integrated with Maple T.A., the Proctored Browser no longer requires separate installation

- Available for use inside course management systems where Maple T.A. has been integrated into the environment

## Customized Student Profiles

Schools can now require additional information in student profiles.

• Administrators can add new fields to the student profile information, such as their program or major.

• Fields are mandatory to ensure the information is collected, even during self-registration.

## Enhanced Course Management Integration

Maple T.A. can be seamlessly integrated into course management systems, such as Blackboard®, Moodle™, and Brightspace™ by D2L™, using connector features and add-ons. These abilities have been enhanced in Maple T.A. 10.

• The Moodle connector, which is included with Maple T.A., has been updated to support the most recent releases of Moodle (2.6 and 2.7).

• The web services API, which allows institutions to build custom connectors to integrate Maple T.A. into virtually any course management or learning management system, provides new tools for course administration.

## Increased Support for International Languages

The Maple T.A. interface is available in many languages, including Brazilian Portuguese, Korean, Simplified and Traditional Chinese, and more. With Maple T.A. 10, Maple T.A. is now also available in French. The French translation of Maple T.A. 10 includes:

• Interface elements, including menus, buttons, instructions, and messages displayed to the students and instructors

• The Student Help pages and Getting Started information

• Access to over a thousand questions written in French from math, science, and engineering courses

## Authoring Questions

Maple T.A. 10 is based on Maple™ 18, and these two products work together to provide new options for authoring Maple T.A. question content.

• New tools in Maple 18 support the development and testing of questions in the rich Maple authoring environment before they are exported to Maple T.A.

• Authors can start from scratch inside Maple or import existing Maple T.A. content into Maple for further modifications and testing.

• The Maple environment even supports the development of non-Maple-based question types by providing Maple equivalents of commands built into Maple T.A. Questions that use these commands can be developed and tested in Maple, and then the efficient Maple T.A. commands will be called when inside the Maple T.A. environment.

• New commands in Maple can be used to examine exactly what the student enters as a response, preventing any autosimplification, making it easier to create questions that require students to respond using a particular form of the correct answer.