



*Scholastic  
Math  
Inventory*

# Software Manual

For use with *Scholastic Math Inventory* version 2.2 or later  
and Scholastic Achievement Manager version 2.2 or later

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PDF0478 (PDF)

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### What’s New In Scholastic Math Inventory and Scholastic Achievement Manager Version 2.2?

Scholastic customers already using *Scholastic Reading Inventory* (SRI) and Scholastic Achievement Manager (SAM) will notice new features in version 2.2:

#### Scholastic Math Inventory

- **College and Career Readiness Indicator:** The Scholastic Math Inventory (SMI) Student Progress Report includes an indicator to help teachers compare student Quantile measures against College and Career Readiness benchmarks.
- **Test Removal:** Only users with administrator permissions may remove tests in SMI version 2.2.

#### Scholastic Achievement Manager (SAM)

- **New Password Requirement:** Administrators must create a unique username and password at first login of SAM.
- **CSV Exports:** In SAM version 2.2, users may select specific classes for export and include up to three custom demographic fields to export.



## Introduction

This software manual explains *Scholastic Math Inventory* (SMI) and describes the student test-taking experience.

SMI is a computer-adaptive assessment that measures student math achievement and reports results based on the Quantile Framework® for Mathematics. SMI works with the Scholastic Achievement Manager (SAM) version 2.0 and supports educators by providing:

- Universal screening for intervention
- Progress monitoring
- Data for creating instructional groups
- Instructional recommendations

For information on SAM program settings in SMI and on generating SMI reports, see [SAM Settings and Reports for Scholastic Math Inventory](#). For information on installing SMI software, see the [Scholastic Math Inventory Installation Guide](#). For other information, see the chart below. All manuals are available at the [Scholastic Education Product Support](http://www.scholastic.com/education/productsupport) website ([www.scholastic.com/education/productsupport](http://www.scholastic.com/education/productsupport)).

For information on:	Download this manual:
SMI program settings and generating SMI reports in SAM	<a href="#">SAM Settings and Reports for Scholastic Math Inventory</a>
Installing SMI software	<a href="#">Scholastic Math Inventory Installation Guide</a>
Getting started with SAM and setting up accounts at the district and school levels	<a href="#">Getting Started With Scholastic Achievement Manager</a>
Adding and enrolling students in SAM	<a href="#">Enrolling and Managing Students Using Scholastic Achievement Manager</a>
SAM Resources	<a href="#">Using Resources in Scholastic Achievement Manager</a>
Using SAM Connect	<a href="#">SAM Connect User's Guide</a>
Using SAM services, functions, and data	<a href="#">SAM Data Management Manual</a>
Using Scholastic Hosting Services	<a href="#">Scholastic Hosting Services User's Guide</a>

## **Student Accessibility**

*Scholastic Math Inventory* provides accessibility features that can enable some visually impaired students to use the application. The contrast setting, for example, will help a student who has trouble reading black text on a white background.

*Scholastic Math Inventory* requires students to view images and videos, speak into a microphone, and use a mouse. Students who have difficulty with these requirements will need assistance when using the program.

*Scholastic Math Inventory* does not provide textual equivalence to bitmap-rendered content. Students who are dependent on a Braille or text-to-speech device will be unable to use the application. Also, though closed captions are available for the hearing-impaired, the application does not provide a description of the video, nor does it provide the closed-caption text in text format (it is only available as a display).

Browser-based accessibility features, such as screen and font magnifiers, are not tested by Scholastic and may not be compatible with *Scholastic Math Inventory*. Even in cases when the features may work with the program, the input focus is not set to allow students using screen magnifiers to follow the onscreen changes. Similarly, changing display settings may render the program unusable. Students needing to see larger text should use an external screen magnifier rather than changing display settings or using a feature of the browser program.

Mac OS X and Windows operating systems, as well as Internet Explorer, Firefox, and Safari browser programs, offer a range of accessibility features that may enable users with disabilities to, among other things, perform basic navigation with a keyboard instead of a mouse by using the Tab key.

## Overview

*Scholastic Math Inventory* (SMI) has a bank of over 5,000 test items across five strands of mathematics as defined by the National Council of Teachers of Mathematics. The five strands are: number and operations, geometry, measurement, algebra, and data analysis and probability. Results are reported in both criterion-referenced and norm-referenced terms, indicating students' mathematical achievement level on a universal scale as well as measuring their results against those of their peers.

The SMI test has three parts: the Math Fact Screener, the Practice Test, and the SMI Scored Test. Upon completing the test, students receive their Quantile® measure. Students' Quantile measures are automatically recorded in SAM. Teachers and administrators may use the data to generate reports (see [SAM Settings and Reports for Scholastic Math Inventory](#)) to evaluate student performance, monitor progress, inform instruction, and help identify student needs.

## Program Settings

The software has several settings that teachers may customize in SAM to meet student needs. Teachers may adjust student, group, or class settings to individualize the SMI test experience. Administrators may also adjust settings on the teacher, grade, school, and district levels. See [SAM Settings and Reports for Scholastic Math Inventory](#) for more information on adjusting SMI Program Settings in SAM.

The SMI Program Settings are:

- **Minimum Time Between Completed Tests:** Set the minimum number of days between SMI tests. The default is 30 Days.
- **Estimated Math Level:** Select a Math Level for students before the first SMI test. The available levels are Undetermined, Far Below Grade Level, Below Grade Level, On Grade Level, Above Grade Level, or Far Above Grade Level.
- **Discard Last Incomplete Test:** Teachers may choose to have students start a new test on their next login instead of finishing an incomplete test.
- **Require Students To Take Practice Questions:** This option specifies when students see practice questions. The default setting is First Test Only.
- **Show Student Quantile After Test Completion:** This setting allows students to view their Quantile measure at the end of the test. The default setting is Show Student Quantile.

- **Turn Off Calculator (Administrators Only):** Choose this option to turn off the calculator for all students in the school or district. Without the use of a calculator, students may find that problems are harder than expected, which may affect the student score.
- **Turn Off Formulas (Administrators Only):** Choose this option to turn off the formula lists for all students in the school or district. Without referring to formulas when appropriate, students may find that problems are harder than expected, which may affect the student score.
- **Set Performance Level (Administrators Only):** Choose this option to allow administrators to set the names and Quantile ranges of SMI Performance Levels.

## Passwords

To change a student's password, use SAM to open and edit the student's profile. See the [SAM Settings and Reports](#) manual for detailed instructions. Passwords must be a minimum of six characters with at least one numeral. Administrators may adjust password requirements using the Password Configuration tab in the SAM Server Utility.

**NOTE:** If upgrading from an earlier version of SAM, password requirements will default to the more stringent requirements (eight to sixteen characters, no part of the user's first or last name, one numeral and one special character). Your district administrator may change these requirements through the SAM Server Utility. Previously set passwords and password requirements are unaffected.



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### Teacher Tip

Before students take the SMI test, review test-taking strategies and the format of the computer-based assessment for more accurate results. See the *Educator's Guide* for suggestions.

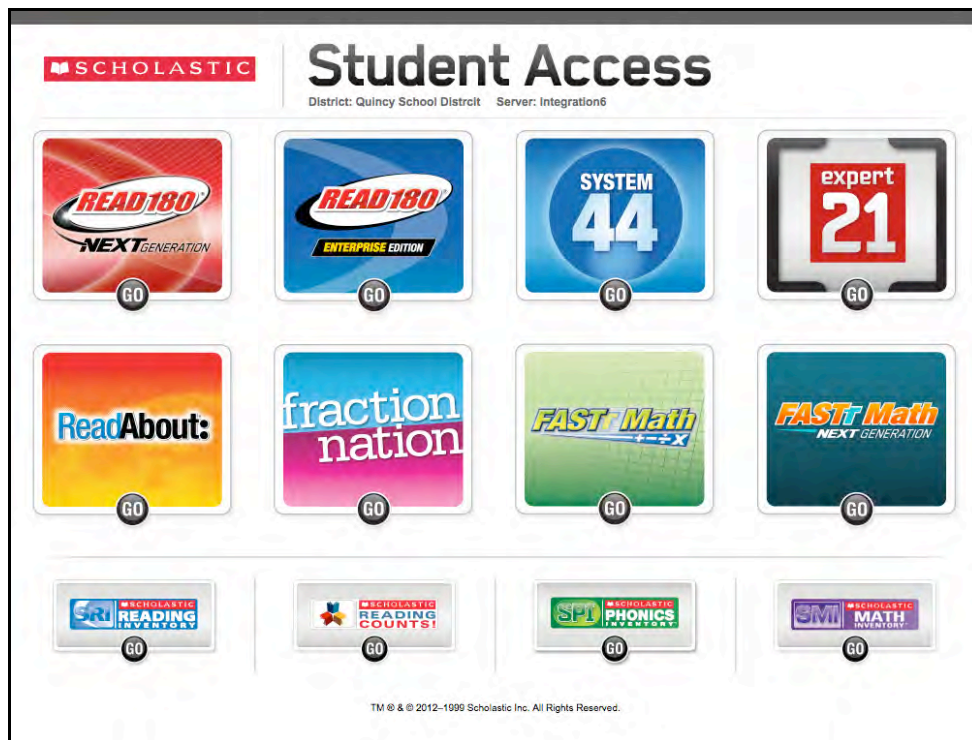
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## Logging In

### Student Access Screen

Students are enrolled in *Scholastic Math Inventory* (SMI) through Scholastic Achievement Manager (SAM). See [Enrolling and Managing Students In Scholastic Achievement Manager](#) for detailed instructions on enrolling students.

Once students are enrolled in *Scholastic Math Inventory*, they may log in to SMI through the Student Access Screen on the student workstation. To open the Student Access Screen, open the workstation's browser program and use the Student Access Screen bookmark (see the [Scholastic Math Inventory Installation Guide](#) for help with bookmarking the Access Screen).

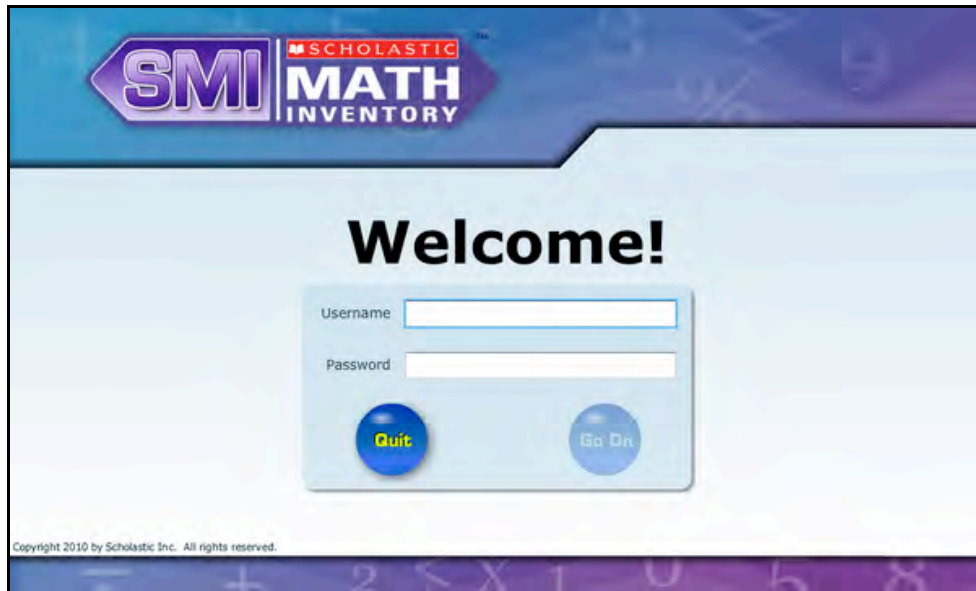


The Student Access Screen displays icons for all Scholastic products licensed on the server.

To open the SMI Login Screen, click the SMI icon at the bottom of the screen.

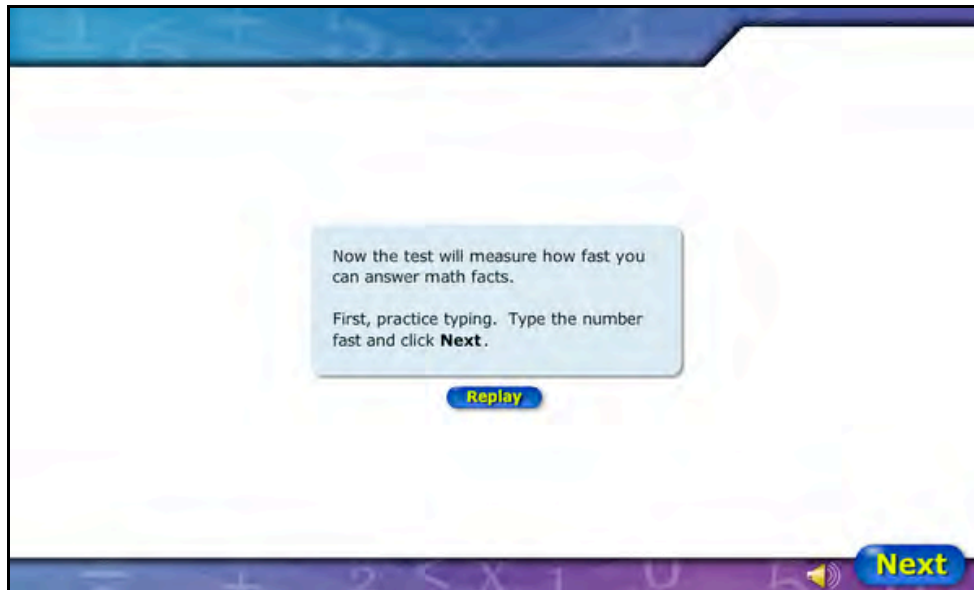


### The SMI Login Screen



From the Login Screen, students type their usernames and passwords and click **Go On** to start the test.





After students log in, they see an introduction screen that displays instructions on the part of the SMI test they are about to begin. The instructions are also read aloud. The screen also shows the basic commands that appear throughout the program:

- **Next:** Click the **Next** button to go on to the next screen
- **Audio:** Click the **Speaker** icon to mute or activate the program audio
- **Replay:** Click the **Replay** button to have the instructions read again

After reading the instructions, students click **Next** to go to the Math Fact Screener.

## Using *Scholastic Math Inventory*

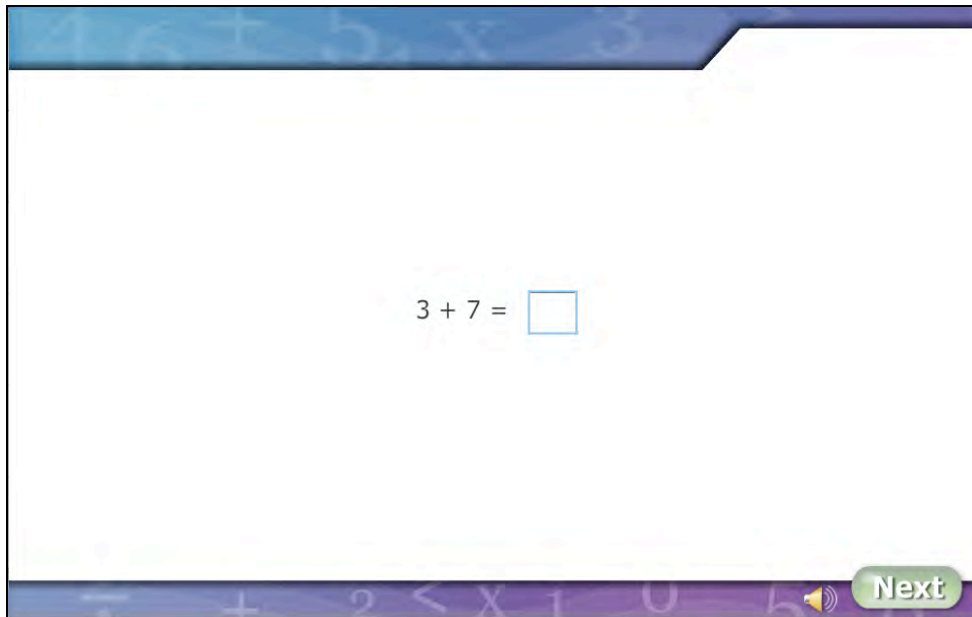
The SMI test has three parts: the Math Fact Screener, the Practice Test, and the SMI Scored Test.

### Math Fact Screener

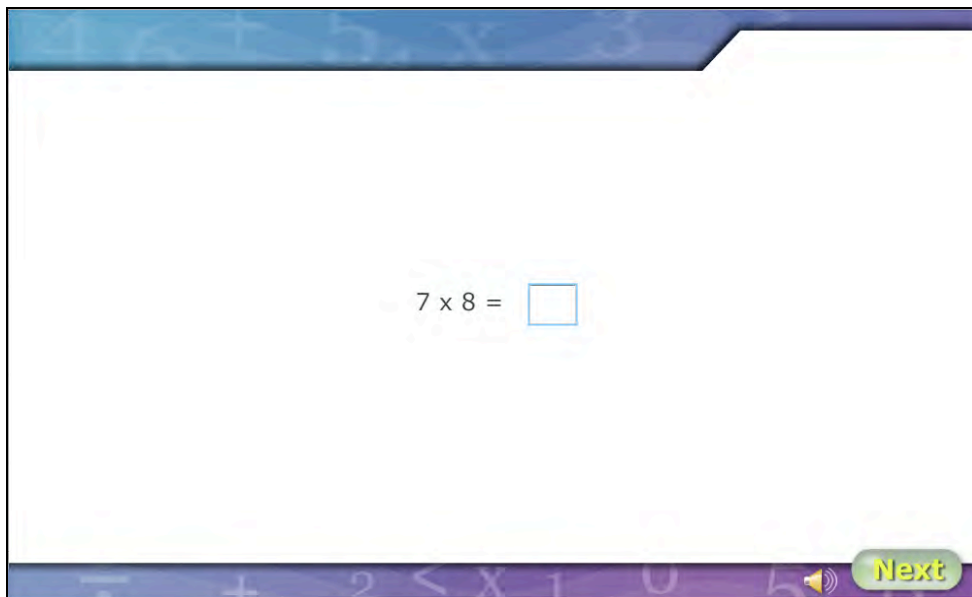
The Math Fact Screener identifies students who may need work on math fact fluency. It is made up of two or three parts: Typing Warm-Up, Addition Fact Screener, and Multiplication Fact Screener for students in Grade 4 or higher. It also includes simple instructions, both written and read aloud, that explain the importance of answering math facts quickly to demonstrate fluency.



In Typing Warm-Up, students practice typing numbers as fast as they can to get comfortable finding numbers on the keyboard or number pad and typing them quickly. Students are asked to type four numbers. After typing each number, they click **Next** to go on to the next number.



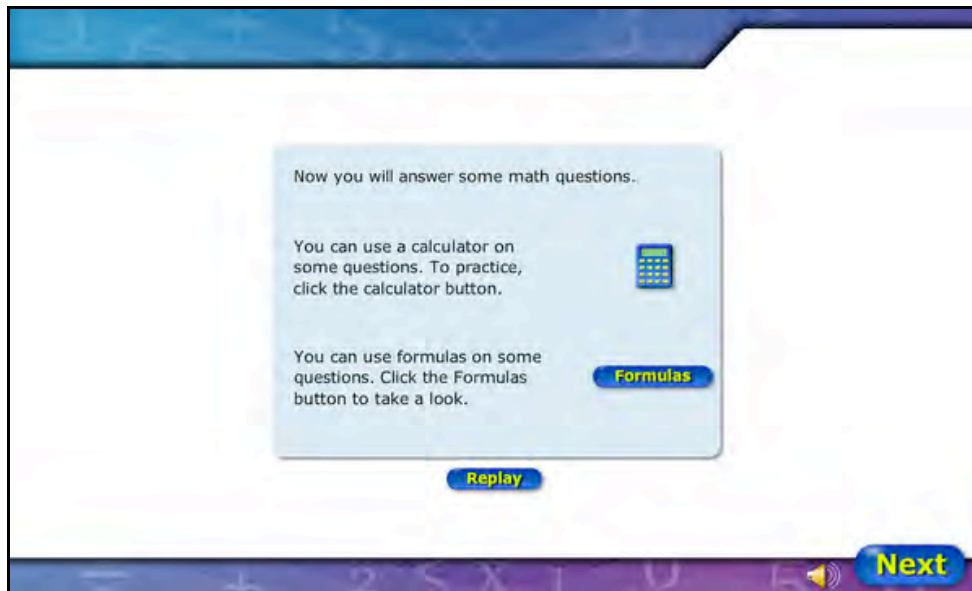
In Addition Facts Screener, students answer 10 addition facts as quickly as they can. Students type an answer and click **Next** to go to the next fact.



In Multiplication Facts Screener, students in Grade 4 or higher answer 10 multiplication facts as quickly as they can. Students type an answer and click **Next** to go to the next fact. After the last fact, clicking **Next** takes students to the Practice Test. The results of the Math Fact Screener are recorded in SAM. These results indicate which students may need work on fact fluency and which students are fluent on the tested facts in addition or multiplication.

## Practice Test

The Practice Test prepares students for the SMI Scored Test by determining if students understand how to use the computer to answer SMI questions. The Practice Test familiarizes students with SMI, the calculator, and the SMI formula lists. Practice Test answers do not count toward students' final Quantile measures.

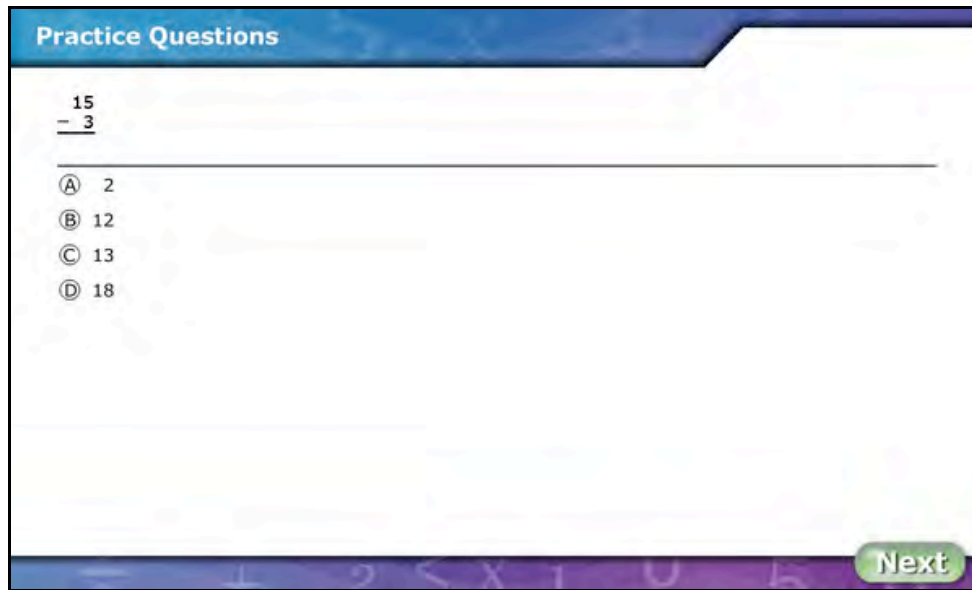


Before beginning the Practice Test, students may practice using the calculator by clicking the Calculator icon. Students may also review the formulas by clicking the **Formulas** button.



### Teacher Tip

This screen is not visible if the district administrator has disabled these features.



The Practice Test consists of three to five questions. Practice Test facts are targeted to allow students to answer without difficulty. All questions are multiple choice with four answer choices. Students may select answers by using either the mouse or the keyboard.

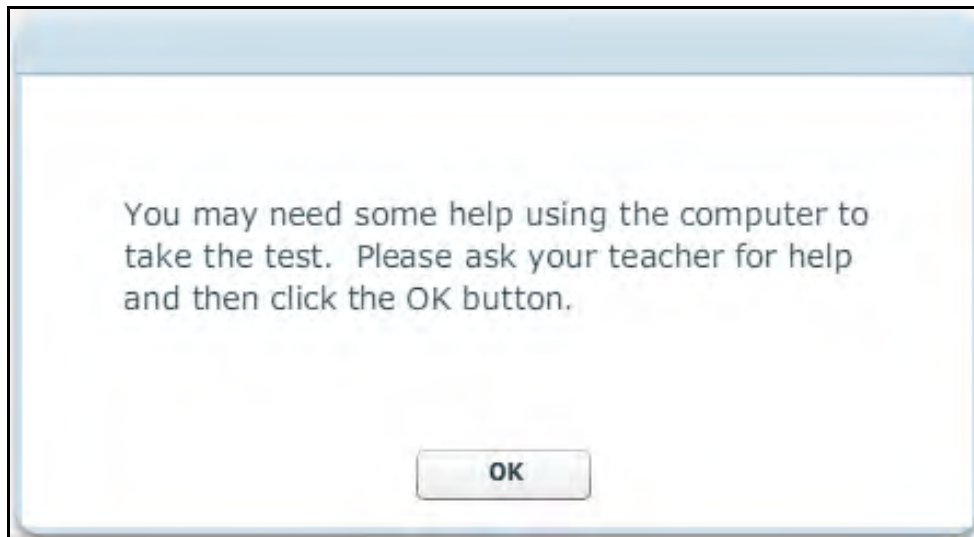
**To select an answer using the mouse:**

1. Click an answer from the list of choices to select it.
2. Click **Next** to record the answer choice and advance to the next question.

**To select an answer using the keyboard:**

1. Press the Tab key to activate the keyboard selection process.
2. Use the Up and Down arrows to move through the choices.
3. Press the Space Bar or the Enter key (or the Return key) to select an answer.
4. Press the Tab key to highlight the **Next** button.
5. Press the Enter (or Return) key to record your answer choice and advance to the next question.

To change an answer, click a different answer choice before clicking **Next** or pressing Enter or Return. Students may not go back to a question to change the answer once they have submitted it.



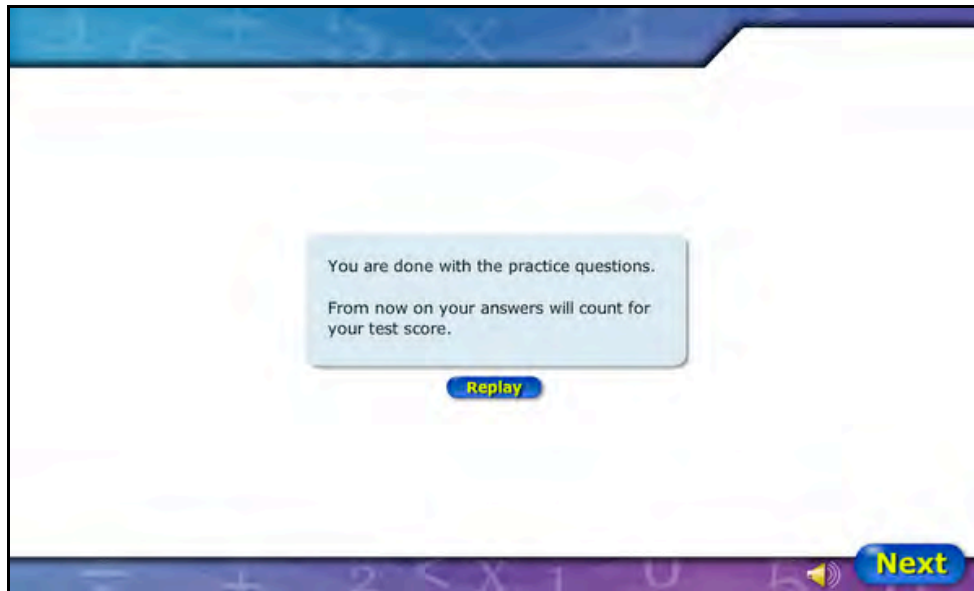
Students who answer any of the first three practice questions incorrectly see a message prompting them to seek help from their teacher. Students may be having difficulty navigating the keyboard, understanding the questions or the format of the test, or processing the instructions. Once teachers have addressed these or other issues, students may click **OK** to answer two more practice questions. Students may also log out of the Practice Test and return to it when they log back in to SMI.



**Teacher Tip**

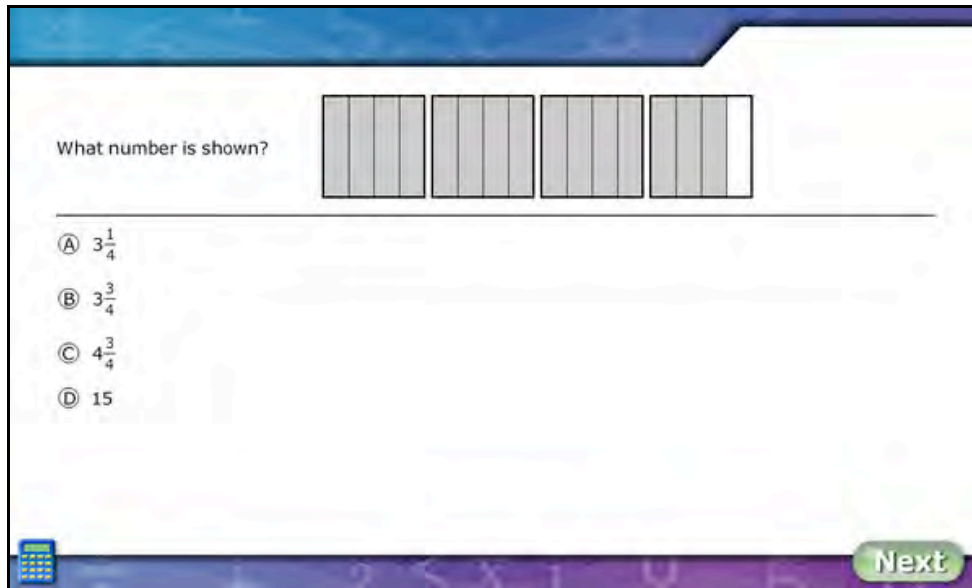
Students only see the Practice Test the first time they take SMI, unless their program settings in SAM are set to show the Practice Test every time they take a new test. Students who need to pause the Practice Test may continue the test the next time they log in.

### SMI Scored Test



When students finish the Practice Test, they are prompted to begin the SMI Scored Test. Students are reminded that from this point all answers count toward the SMI score. Students click **Next** to begin the Scored Test or **Replay** to hear the instructions again. Students may activate or deactivate the audio instructions by clicking the Speaker icon.





The SMI Scored Test consists of 15–30 questions across the five mathematics strands: number and operations, geometry, measurement, algebra, and data analysis and probability. SMI is adaptive and measures students' responses as they move through the SMI Scored Test. As students answer questions correctly or incorrectly, the proportion of questions from each strand changes—either gaining in difficulty or with fewer questions from more difficult strands (such as algebra). As with the Practice Test, all questions are multiple-choice with four answer choices.

**To select an answer using the mouse:**

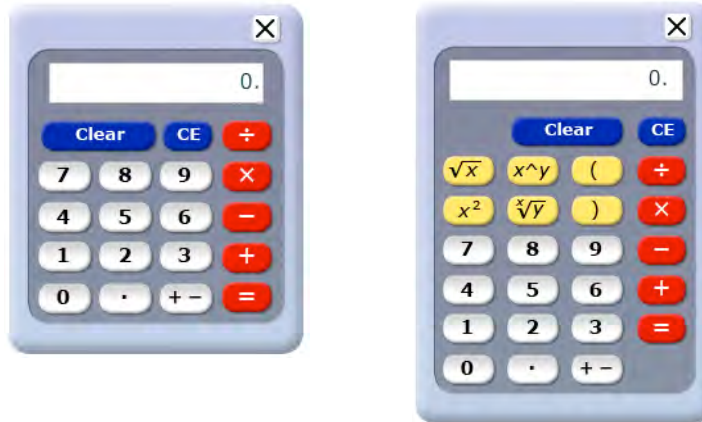
1. Click an answer from the list of choices to select it.
2. Click **Next** to record the answer choice and advance to the next question.

**To select an answer using the keyboard:**

1. Press the Tab key to activate the keyboard selection process.
2. Use the Up and Down arrows to move through the choices.
3. Press the Space Bar or the Enter (or Return) key to select an answer.
4. Press the Tab key to highlight the **Next** button.
5. To change an answer, click a different answer choice before clicking **Next** or pressing Enter or Return.

Students may change an answer by clicking a different choice before clicking **Next** or pressing Enter or Return. They may not change a submitted answer. When students answer enough questions to determine a Quantile measure, the Scored Test ends.

## Using the Calculator



SMI includes two types of onscreen calculators. The type of calculator provided depends on the difficulty of the question. Students see a four-function calculator for questions written for grades up to Grade 5; for Grades 6 and higher questions, students use the scientific calculator.

The calculator is not available for every question. On the SMI Scored Test, the calculator is disabled for questions that measure students' calculation skill. Users with administrator permissions may disable the calculator for all SMI items or for all students in a school or district. Without the use of a calculator, students may find that problems are harder than expected, which may affect the student score.

Students may practice using the calculator before and during the Practice Test.

To open the calculator, click the Calculator icon in the lower left corner of the screen, or use the keyboard by following these steps:

1. Press the Tab key to activate the keyboard selection process and highlight the calculator.
2. Press the Space Bar to open the calculator.
3. Move the calculator using the arrow keys.
4. Click the "X" icon on the calculator to close it.

Students may use the calculator with the mouse, or the computer's keyboard and number pad.

## Using the Formulas

<p><b>Circumference</b>  <math>C = 2 \times \pi \times r</math>  <math>C = \pi \times d</math></p> <p><b>Area</b>                  Rectangle: <math>A = \ell \times w</math>                  Triangle: <math>A = \frac{1}{2} \times b \times h</math>                  Circle: <math>A = \pi \times r^2</math></p> <p><b>Volume</b>                  Rectangular Solid: <math>V = B \times h</math>  <math>V = \ell \times w \times h</math></p>	<table border="1"> <thead> <tr> <th>Key</th> </tr> </thead> <tbody> <tr> <td>A = area</td> </tr> <tr> <td><math>\ell</math> = length</td> </tr> <tr> <td>w = width</td> </tr> <tr> <td>h = height</td> </tr> <tr> <td>b = base</td> </tr> <tr> <td>C = circumference</td> </tr> <tr> <td>r = radius</td> </tr> <tr> <td>d = diameter</td> </tr> <tr> <td>V = volume</td> </tr> <tr> <td>B = base area</td> </tr> </tbody> </table>	Key	A = area	$\ell$ = length	w = width	h = height	b = base	C = circumference	r = radius	d = diameter	V = volume	B = base area
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C = circumference												
r = radius												
d = diameter												
V = volume												
B = base area												

<p><b>Circles</b>                  Circumference: <math>C = 2\pi r</math>                  Area: <math>A = \pi r^2</math></p> <p><b>Surface Area</b>                  Prism: SA = sum of the area of all faces                  Pyramid: SA = sum of the area of all faces                  Cylinder: <math>SA = 2\pi rh + 2\pi r^2</math>                  Sphere: <math>SA = 4\pi r^2</math></p>	<p><b>Volume</b>                  Prism: <math>V = Bh</math>                  Pyramid: <math>V = \frac{1}{3} Bh</math>                  Cylinder: <math>V = \pi r^2 h</math>                  Cone: <math>V = \frac{1}{3} \pi r^2 h</math>                  Sphere: <math>V = \frac{4}{3} \pi r^3</math></p>	<table border="1"> <thead> <tr> <th>Key</th> </tr> </thead> <tbody> <tr> <td>C = circumference</td> </tr> <tr> <td>A = area</td> </tr> <tr> <td>SA = surface area</td> </tr> <tr> <td>V = volume</td> </tr> <tr> <td>B = area of base</td> </tr> <tr> <td>r = radius</td> </tr> <tr> <td>h = height</td> </tr> </tbody> </table>	Key	C = circumference	A = area	SA = surface area	V = volume	B = area of base	r = radius	h = height
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<p><b>Pythagorean Theorem:</b> <math>a^2 + b^2 = c^2</math>                  where a and b are the lengths of the legs of a right triangle and c is the length of the hypotenuse.</p>		<p><b>Distance Formula:</b>  <math>d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}</math>                  for points <math>(x_1, y_1)</math> and <math>(x_2, y_2)</math>.</p>								
<p><b>Quadratic Formula:</b>  <math>x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}</math> for <math>ax^2 + bx + c = 0</math>.</p>										
<p><b>Simple Interest:</b> <math>I = Prt</math>                  where I = interest, P = principal, r = annual interest rate, and t = time (in years).</p>	<p><b>Compound Interest:</b> <math>A = P \left(1 + \frac{r}{n}\right)^{nt}</math>                  where A = amount after interest is earned, P = principal, r = interest rate, n = number of times per year the interest is compounded, and t = time (in years).</p>									
<p><b>Permutation:</b> <math>{}_n P_r = \frac{n!}{(n-r)!}</math>                  where r is the number of items chosen from a set of n total items resulting in the total number of permutations.</p>	<p><b>Combination:</b> <math>{}_n C_r = \frac{n!}{(n-r)! r!}</math>                  where r is the number of items chosen from a set of n total items resulting in the total number of combinations.</p>									

SMI includes two types of onscreen formula lists that contain useful formulas. The type of formula list provided depends on the difficulty of the question. Students see a basic formula list for questions written for grades up to Grade 5; for Grades 6 and higher questions, students see a more detailed formula list.

Users with administrator permissions may disable the formulas for all SMI items or for all students in a school or district. Without referring to formulas when appropriate, students may find that problems are harder than expected, which may affect the student score.

To open the formula lists, click the **Formulas** button in the lower left corner of the screen, or use the keyboard by following these steps:

1. Press the Tab key to activate the keyboard selection process and highlight the **Formulas** button.
2. Press the Space Bar to open the formulas.
3. Move the formula list using the arrow keys.
4. Click the “X” icon on the formula list to close it.

## Completing the Test and Exiting SMI



When students complete the SMI Scored Test, the program displays a Quantile measure for that student.

To exit the program, click **Quit**. This closes SMI, and students' scores are recorded in SAM.



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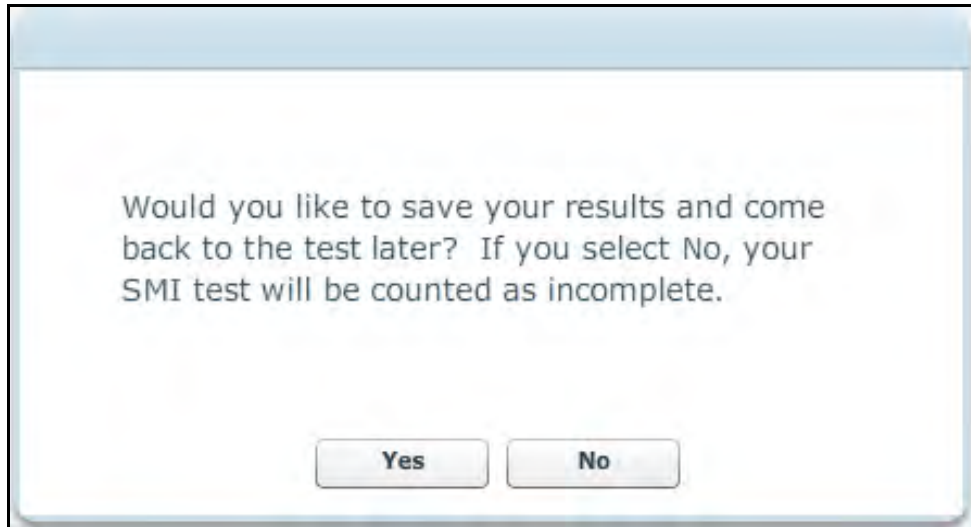
### Teacher Tip

Use the SMI Program Settings in SAM to disable displaying Quantile measures onscreen. See [SAM Settings and Reports for Scholastic Math Inventory](#) for more information.

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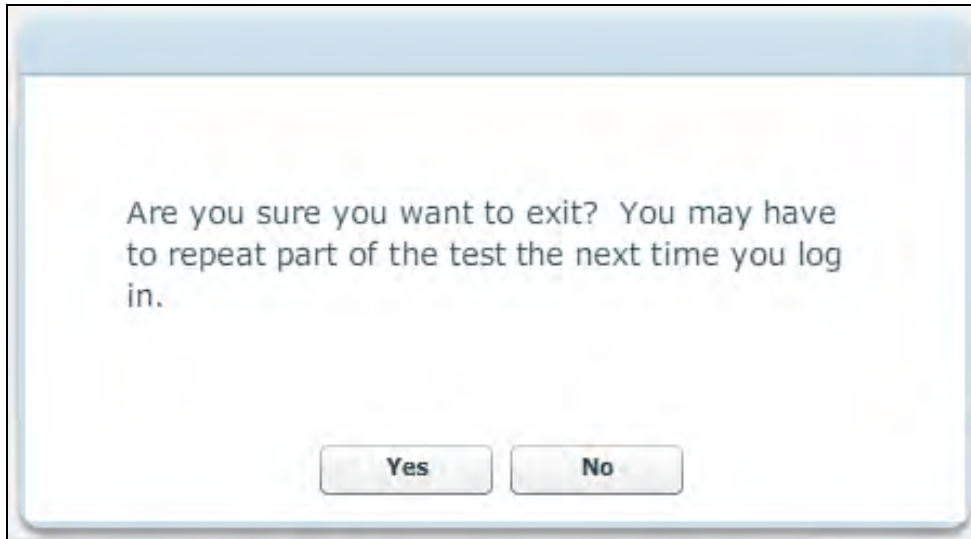
## Saving and Returning to the SMI Scored Test

Students have 40 minutes to complete the SMI test, though the test is designed for students to finish in less time. Students who do not finish the SMI test in one session may save their work.



Students who must interrupt their SMI Scored Test may do so by pressing the Esc key on the keyboard. This opens a confirmation window. Students who want to save their results and continue the test at their next login click **Yes**. Students who click **No** have their test scored "Incomplete" and must start a new test at the next login.

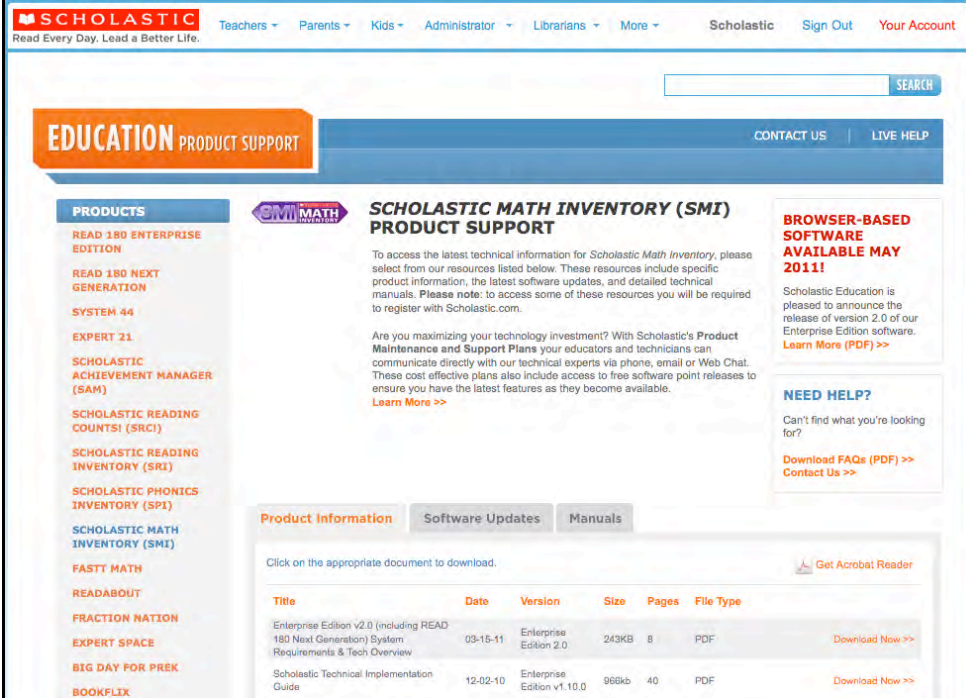
Students' saved tests are kept for two weeks. After two weeks, students must begin a new test.



Students who exit SMI prior to starting the SMI Scored Test see a confirmation window informing them that they may have to repeat part of the test during the next session. Students who still want to exit click **Yes**. Students who wish to return to their test may click **No**.

## Technical Support

For questions or other support needs, visit the [Scholastic Education Product Support](http://www.scholastic.com/smi/productsupport) website at [www.scholastic.com/smi/productsupport](http://www.scholastic.com/smi/productsupport).



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**PRODUCTS**

- READ 180 ENTERPRISE EDITION
- READ 180 NEXT GENERATION
- SYSTEM 44
- EXPERT 21
- SCHOLASTIC ACHIEVEMENT MANAGER (SAM)
- SCHOLASTIC READING COUNTS! (SRC)
- SCHOLASTIC READING INVENTORY (SRI)
- SCHOLASTIC PHONICS INVENTORY (SPI)
- SCHOLASTIC MATH INVENTORY (SMI)
- FASTT MATH
- READABOUT
- FRACTION NATION
- EXPERT SPACE
- BIG DAY FOR PREK
- BOOKFLIX

**SCHOLASTIC MATH INVENTORY (SMI) PRODUCT SUPPORT**

To access the latest technical information for Scholastic Math Inventory, please select from our resources listed below. These resources include specific product information, the latest software updates, and detailed technical manuals. **Please note:** to access some of these resources you will be required to register with Scholastic.com.

Are you maximizing your technology investment? With Scholastic's Product Maintenance and Support Plans your educators and technicians can communicate directly with our technical experts via phone, email or Web Chat. These cost effective plans also include access to free software point releases to ensure you have the latest features as they become available. [Learn More >>](#)

**BROWSER-BASED SOFTWARE AVAILABLE MAY 2011!**

Scholastic Education is pleased to announce the release of version 2.0 of our Enterprise Edition software. [Learn More \(PDF\) >>](#)

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**Product Information** Software Updates Manuals

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Title	Date	Version	Size	Pages	File Type	
Enterprise Edition v2.0 (including READ 180 Next Generation) System Requirements & Tech Overview	03-15-11	Enterprise Edition 2.0	243KB	8	PDF	<a href="#">Download Now &gt;&gt;</a>
Scholastic Technical Implementation Guide	12-02-10	Enterprise Edition v1.10.0	966kb	40	PDF	<a href="#">Download Now &gt;&gt;</a>

At the site, users will find program documentation, manuals, and guides, as well as Frequently Asked Questions and live chat support.

For specific questions regarding the Scholastic program suite, contact customer service to speak to a representative for each program powered by SAM at:

- 1-800-283-5974 (all Enterprise Edition and Next Generation programs)
- 1-800-927-0189 (other versions)

For specific questions about using SAM with your Scholastic programs, click **Help** in the Quick Links section along the top of any screen in SAM.