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# Online Calculators in the Test Delivery System

2016–2017

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*Prepared by the American Institutes for Research® (AIR)*



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## About Calculators in the Test Delivery System

Students are able to use an online calculator for some grades and subjects of the SAGE Assessments as an alternative to handheld calculators, as allowed by the Utah State Board of Education. Starting in the fall of 2016, the Desmos calculators will be embedded within the SAGE assessments.

The Desmos HTML5 calculator is used by millions of students around the world and can be accessed from the web, or on iOS, Android and Chrome apps. This calculator is fully accessible at the WCAG 2.0 AA level (optimized for blind and visually impaired students).

Three versions will be used in SAGE assessments:

### Standard Calculator

Available for: Mathematics Grade 6 and Science Grades 4-6

<https://www.desmos.com/fourfunction>

### Scientific Calculator

Available for the following tests: Mathematics Grades 7-8, Science Grades 7-8, Biology, Earth Science, Physics, and Chemistry

<https://www.desmos.com/scientific>

### Full Function Calculator

Available for the following tests: Secondary Mathematics I, II, and III

<https://www.desmos.com/calculator>

The Desmos site ([www.desmos.com](http://www.desmos.com)) contains a wide array of resources to help both teachers and students become familiar with the calculator.

The full Desmos user guide is available at:

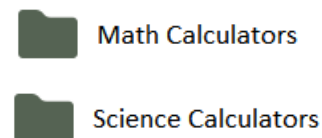
[https://s3.amazonaws.com/desmos/Desmos\\_Calculator\\_User\\_Guide.pdf](https://s3.amazonaws.com/desmos/Desmos_Calculator_User_Guide.pdf)

## Accessing the Sample Calculators

All sample calculators are available on the SAGE portal at <http://sageportal.org>. We encourage bookmarking the sample calculators so that users can easily open them. Desktop/home screen shortcuts can also be created so that the sample calculators can be accessed without an internet connection. The online calculators work on all supported browsers, as listed in the *System Requirements for Online Testing* on the SAGE portal.

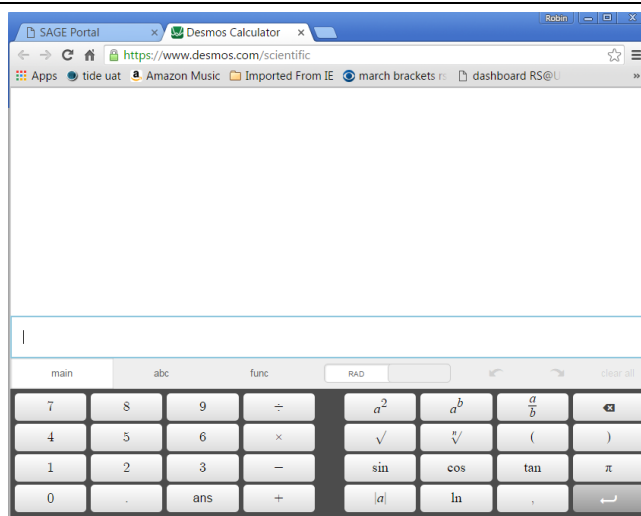
## Open a Sample Calculator on Windows/Mac/Linux

1. Navigate to the SAGE portal > Resources Teachers > SAGE Assessment Subjects > Science or Math. You may also use the Advance Search to find the calculator links.



2. Click on a [Calculator] link.

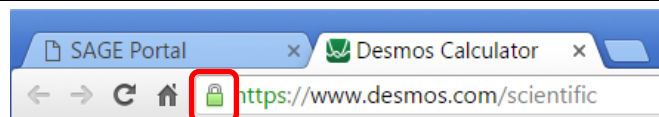
The sample calculator you selected will open in the browser window.



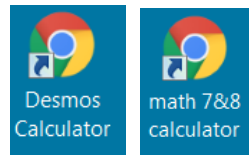
## Create a Desktop Shortcut to the Sample Calculator

*Note: Ensure the browser window does not take up the full monitor.*

1. Use your mouse to hover over the lock icon in the address bar.
2. Click and drag the lock icon to the desktop. A shortcut will appear that says "Calculator" and have the Firefox icon.




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3. *Optional: Rename shortcut icon*
    - a. Click in the icon text and it will become editable.
    - b. Change the text to what you want (e.g., “Graphing Calculator”).
  4. Double-click the icon to open the sample calculator. It will open in Firefox.
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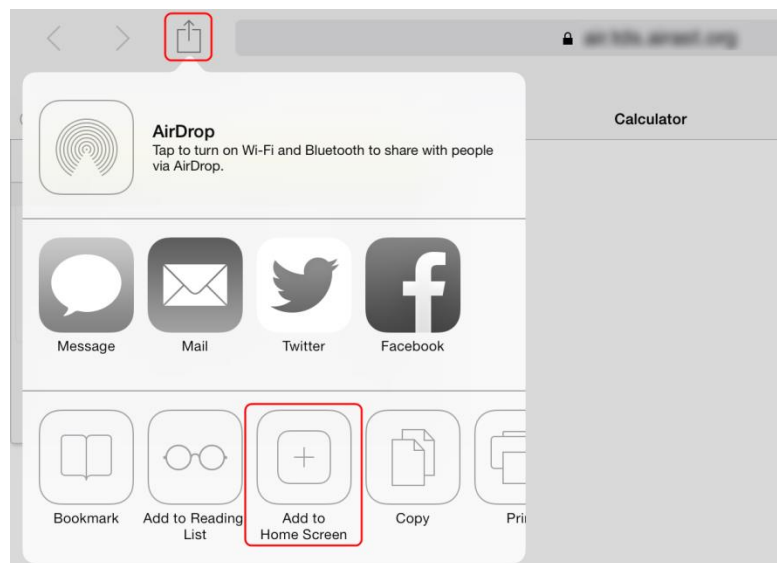


## Open a Sample Calculator on a Mobile Tablet

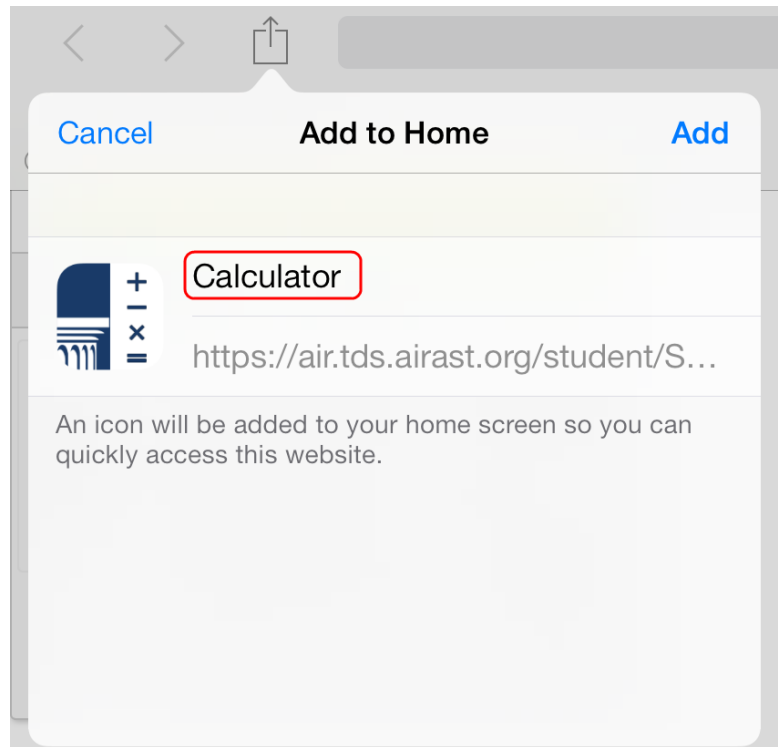
### Save a Sample Calculator to your Home Screen for iOS 8

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1. Tap the “share” icon [  ], which appears just to the left of the address bar.
2. Tap the [ **Add to Home Screen** ] icon.



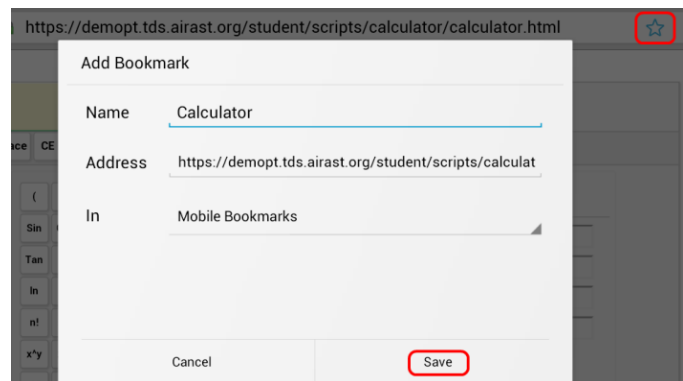
3. *Optional: Rename shortcut icon*  
(By default, all sample calculators are named “Calculator.”)
  - a. Tap on the text that says “Calculator.”
  - b. Using the tablet keyboard, add or modify text (e.g., “Graphing Calculator”).
4. Tap the blue **[Add]** link. The shortcut icon will appear on the Home screen.



### ***Bookmark and Add a Sample Calculator to your Home Screen for Android***

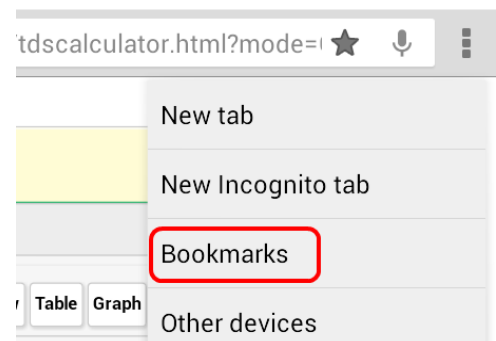
#### **Save the Sample Calculator as a Bookmark**

1. Tap the star icon [☆], which appears on the right side of the address bar. The **Add Bookmark** screen will open.
2. *Optional: Modify the bookmark name*
  - a. Tap the text and then use the keyboard to change the name.
  - b. Tap the down arrow to close the keyboard.
3. Tap **[Save]**.



#### **Add the Calculator Bookmark to the Home Screen**

1. Tap the menu [☰] icon, which appears in the upper right corner. The menu will open.
2. Tap **[Bookmarks]**. The list of your bookmarks will appear.



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3. Tap on the calculator bookmark.
  4. Tap the menu [☰] icon.
  5. Tap [**Add to home screen**]. Another window will pop up. Click the add button. The bookmark will be added to your tablet's home screen.

