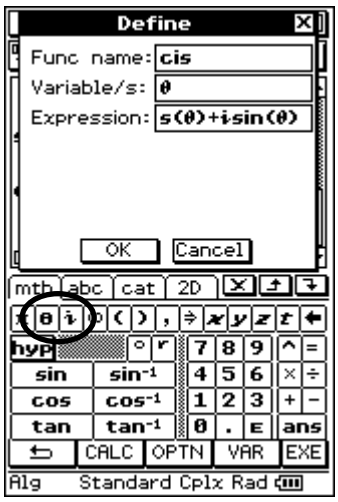
| Classpad Help Series sponsored by Casio Education Australia | | www.casioed.net.au | |
|---|---|---|---|
| 070 | Define cis(θ) | Author | Charlie Watson |
| | | Date | 31 January 2010 |
| | | CPM OS | **03.04.4000** |

Working with complex numbers in the trigonometric form of $r(\cos(\theta)+i\sin(\theta))$ can be simplified by defining the shorthand notation $cis(\theta)$ as a user defined function.




In Main, tap **Interactive**, **Define**.

Enter the function name as cis using the **abc** tab.

Set the variable to **θ**.

Enter the expression as $\cos(\theta)+i\sin(\theta)$, using **θ** and ***i*** from the menu shown at right.

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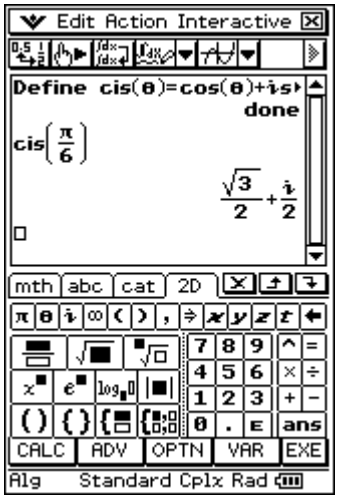
We can check the function has been set up correctly as shown.

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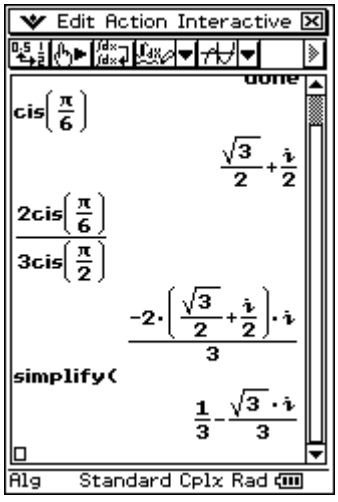
An example calculation is shown.

Tapping **Action**, **simplify, EXE** often encourages Classpad to do better.

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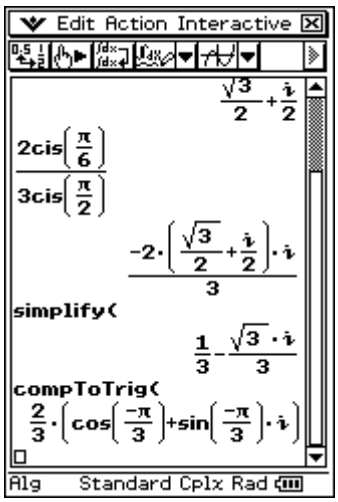
To change an existing complex number into trigonometric form, tap **Action**, **Complex**, **compToTrig**, **EXE**.

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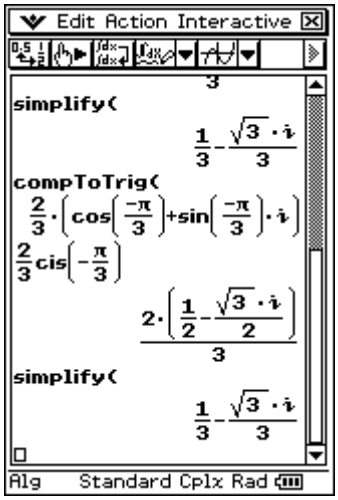
The result is the same as if we had entered $\frac{2}{3}cis\left(-\frac{\pi}{3}\right)$

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