

Example: Show that $\sqrt{45} = 5\sqrt{3}$.

The Verify tool in Main is very useful when there is a need to check steps manually during the simplification of an expression.

Enter the LHS $\sqrt{45}$ into the top line and tap **EXE**.

On the second line enter $\sqrt{5}\sqrt{9}$ and tap **EXE**.

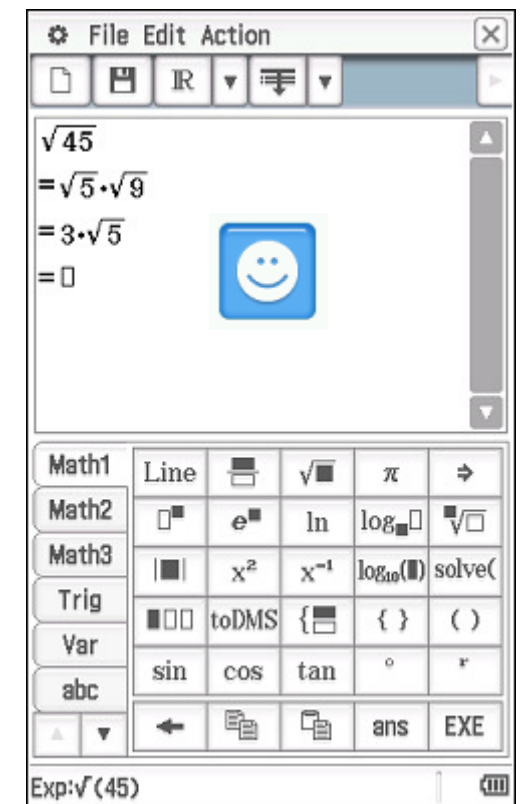
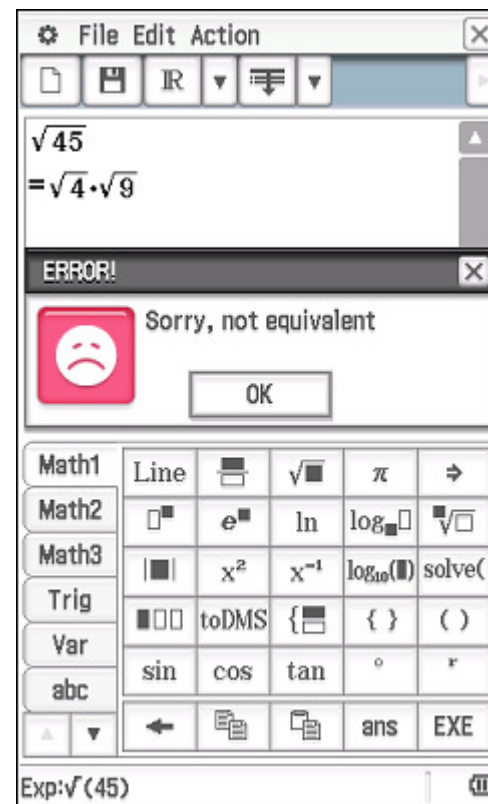
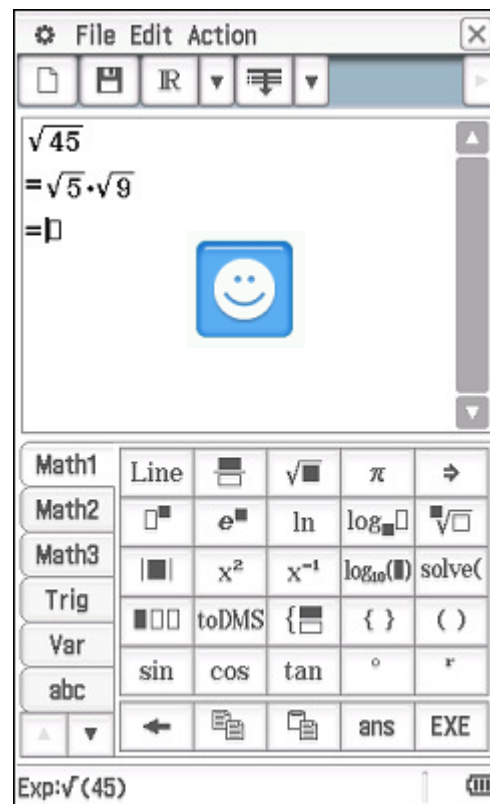
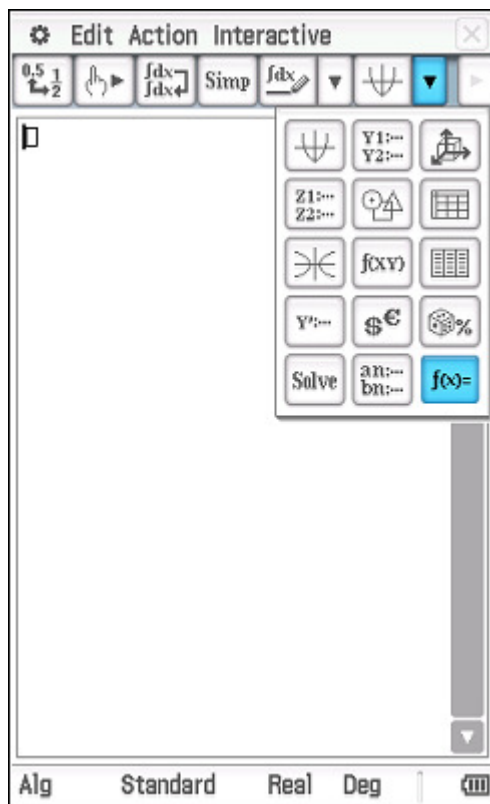
Start in Main, and choose the Verify application as shown.

The expressions are equivalent and so success is confirmed.

When a mistake is made, an error message is displayed.

Now complete the simplification.

When finished tap **Edit**, **Clear All** to start another simplification.



Example: A circle is given by

$x^2 + y^2 + 2x - 4y = 11$. Find the radius and centre of the circle.

Verify will only work with expressions, not equations, and so our first step is to re-arrange the equation into an expression equal to zero and enter this into verify.

Now collect the x and y terms together.

Complete the square on the x and y terms.

Tidy up the result, possibly using some copy and paste to save on typing.

One more line for completeness. Our circle has centre at (-1, 2) and radius 4.

Note that all steps can be saved for future recall using the File, Save command.


An alternative is to create an eActivity and insert Verify strips to create a whole collection of examples saved as one eActivity.

$$x^2 + y^2 + 2x - 4y - 11$$

$$= 0$$

$$x^2 + y^2 + 2x - 4y - 11$$

$$= x^2 + 2x + y^2 - 4y - 11$$

$$= 0$$


$$x^2 + y^2 + 2x - 4y - 11$$

$$= x^2 + 2x + y^2 - 4y - 11$$

$$= (x+1)^2 - 1 + (y-2)^2 - 4 - 11$$

$$= 0$$

$$x^2 + y^2 + 2x - 4y - 11$$

$$= x^2 + 2x + y^2 - 4y - 11$$

$$= (x+1)^2 - 1 + (y-2)^2 - 4 - 11$$

$$= (x+1)^2 + (y-2)^2 - 16$$

$$= 0$$

$$x^2 + y^2 + 2x - 4y - 11$$

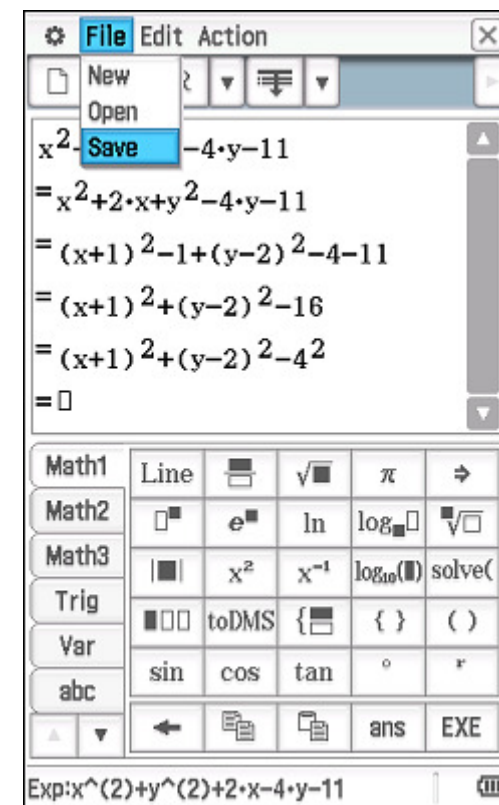
$$= x^2 + 2x + y^2 - 4y - 11$$

$$= (x+1)^2 - 1 + (y-2)^2 - 4 - 11$$

$$= (x+1)^2 + (y-2)^2 - 16$$

$$= (x+1)^2 + (y-2)^2 - 4^2$$

$$= 0$$



File Edit Action

New

Open

Save

$x^2 + y^2 + 2x - 4y - 11$

$= x^2 + 2x + y^2 - 4y - 11$

$= (x+1)^2 - 1 + (y-2)^2 - 4 - 11$

$= (x+1)^2 + (y-2)^2 - 16$

$= (x+1)^2 + (y-2)^2 - 4^2$

$= 0$

Math1	Line	$\frac{\square}{\square}$	$\sqrt{\square}$	π	\rightarrow
Math2	\square^{\square}	e^{\square}	ln	\log_{\square}	$\sqrt[\square]{\square}$
Math3	$ \square $	x^2	x^{-1}	$\log_{10}(\square)$	solve(
Trig	$\square\square$	toDMS	{ \square }	{ }	()
Var	sin	cos	tan	$^{\circ}$	r
abc					

Exp: $x^{(2)} + y^{(2)} + 2x - 4y - 11$