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940	Verify Tool In Main	Date	10 February 2009
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The Verify tool in Main is very useful when there is a need to check steps manually during the simplification of an expression.

Example 1

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

Start in Main, tap Edit, Clear All and then choose the Verify application as shown at right.



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

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

The expressions are equivalent and so success is confirmed.

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

Now complete the simplification.

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







Example 2

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 in which students can insert Verify strips and so create a whole collection of examples saved as one eActivity.

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x ^2+ y ^2+2 x −4 y −11 = 0	





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$x^{2}+y^{2}+2\cdot x-4\cdot y-11$ $=x^{2}+2\cdot x+y^{2}-4\cdot y-11$ $=(x+1)^{2}-1^{2}+(y-2)^{2}-2^{2}-1;$ $=(x+1)^{2}+(y-2)^{2}-16$ $=0$	

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	$\frac{x^{2}+y^{2}+2\cdot x-4\cdot y-11}{x^{2}+2\cdot x+y^{2}-4\cdot y-11}$ = $(x+1)^{2}-1^{2}+(y-2)^{2}-2^{2}-11^{2}+(y-2)^{2}-16$ = $(x+1)^{2}+(y-2)^{2}-16$ = $(x+1)^{2}+(y-2)^{2}-4^{2}$	
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