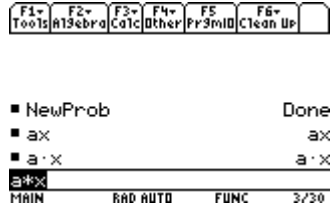
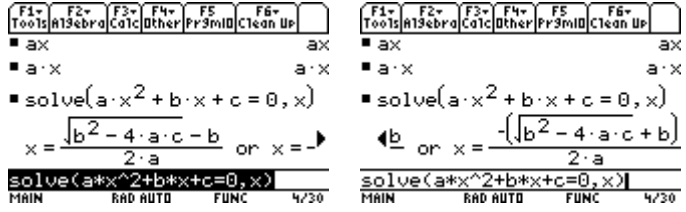
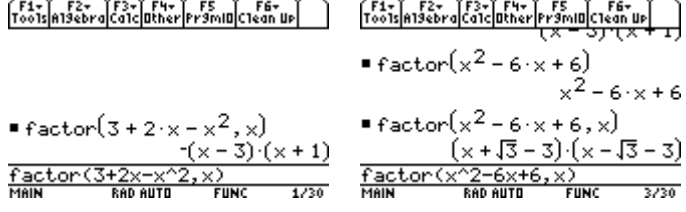


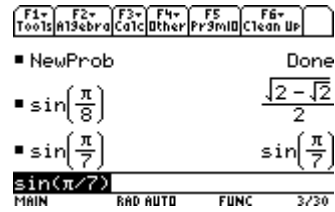
CAS UNEXPECTED RESULTS

andEQUIVALENT EXPRESSIONS

<p>How does interpret simple expressions like ax?</p> <p>If we enter ax CAS interprets this as a variable name.</p> <p>If we enter $a \times x$ this is "a" times x.</p>	 <p>Calculator interface showing the input $a \times x$ and the result $a \cdot x$.</p>
<p>Use of Quadratic Formula</p> $ax^2 + bx + c = 0$ <p>The CAS produces results not in the same order as that produced by the Quadratic Formula as usually stated.</p>	 <p>Two calculator screenshots showing the quadratic formula results. The left screen shows the standard formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. The right screen shows the CAS output: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.</p>
<p>Factorisation</p> <p>The CAS will express things in slightly different forms than that sometimes produced by our tried and true methods.</p> <p>If the students are not aware of the requirement of using</p> <p>factor (expression, variable)</p> <p>they might miss irrational solutions.</p>	 <p>Two calculator screenshots showing factorization. The left screen shows $\text{factor}(3 + 2x - x^2, x)$ resulting in $-(x - 3)(x + 1)$. The right screen shows $\text{factor}(x^2 - 6x + 6, x)$ resulting in $(x + \sqrt{3} - 3)(x - \sqrt{3} - 3)$.</p> <p>Rather than $(3-x)(x+1)$</p>

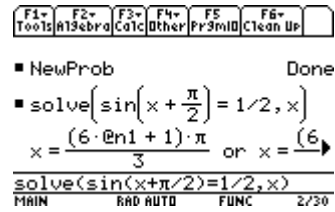
The CAS knows more about exact values than we currently expect our students to know.

It does, however, not know everything.



Solving Trigonometric equations results in emphasising the issue of multiple results.

The use of @n1 as a parameter.



Automatic Simplification can sometimes move faster than the students thinking....

$\frac{(2x)^3 y^2}{xy^4}$ The aim here would be for the student to do this step by step, instead the CAS simplifies the expression in one step.

This is where users of the TI89 may find the Symbolic Math Guide useful....

