

#### [6.47] Unsigned infinity displays as *undef*

'Unsigned infinity' is sometimes used in math textbooks to indicate a limit which is  $+\infty$  on one side of the evaluation point, and  $-\infty$  on the other side of the evaluation point. This is usually indicated as  $\pm\infty$ . The 89/92+ return *undef* (undefined) instead of unsigned infinity, because the majority of courses for which the calculator was designed do not address unsigned infinity. However, the calculator internally carries unsigned infinity as a result.

This behavior can be demonstrated as :

$1/0$	returns <i>undef</i>
$\text{abs}(1/0)$	returns $\infty$ , since the absolute value of unsigned infinity is $+\infty$

For another example, consider

$\tan\left(\frac{\pi}{2}\right)$	returns <i>undef</i> , but
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$\left[\tan\left(\frac{\pi}{2}\right)\right]^2$	returns $\infty$ , since $\infty$ is the square of unsigned infinity
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(Credit to Paul King)