Precalculus

Logarithm notation and the infamous notation $\log x$

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  - This is the notation accepted by most mathematicians.
- $\log$ and $\ln$ have different domains but else coincide: $\ln$ is defined for positive reals, and $\log$ - for non-zero complex.

- *In the present course we shall abstain from using the notation* $\log x$.
- *When we need logarithms base* 10 *we will always write* $\log_{10}$.

- Within this course, we request that the student abstain from using $\log x$ and use instead the unambiguous $\log_{10} x$.
- Outside of this course, we recommend that the student continue avoiding the notation $\log$.
- Should our recommendation contradict the commonly accepted conventions in the field of study of the student, we expect the student to honor the conventions of their fields of study.

Summary of logarithm notation conventions

	Name	ISO notation	Other notation	Used in
$\log_2(x)$	binary logarithm	$\mathrm{lb}(x)$	$\mathrm{ld}(x)$, $\log(x)$, $\lg(x)$	computer science, information theory, music theory, photography
$\log_e(x)$	natural logarithm	$\ln(x)$	$\log(x)$	mathematics, physics, chemistry, statistics, economics, information theory, and engineering
$\log_{10}(x)$	common logarithm	$\lg(x)$	$\log(x)$	various engineering, logarithm tables, handheld calculators, spectroscopy

Table source: Wikipedia

- Standardized in ISO_31-11 (International Standards Organization).