common logarithm: a logarithm with a base of 10

> Example: The function $y = 2\log_{10} x$ is a common logarithm. This is usually written as $y = 2\log x$.

logarithmic function: a function of the form $y = a\log_b x$ where $b > 0$, $b \neq 1$, $a \neq 0$, and a and b are real numbers

> Example: The function $y = 5\log_3 x$ is a logarithmic function.

logarithmic scale: a scale of measurement using the logarithm of a physical quantity instead of the quantity itself

natural logarithm: a logarithm with a base of e

> Example: The function $y = \log_e x$ is a natural logarithm. This is usually written $y = \ln x$.