The Natural Base, *e*

4. Get Organized Fill in each box to compare and contrast the two kinds of logarithms. Give general forms and examples. Simplify, if appropriate. (p. 533).

	COMMON LOGARITHMS	NATURAL LOGARITHMS
BASE		
LOGARITHMIC FORM		
EXPONENTIAL FORM		
$\log_b 1$		
$\log_b b$		
$\log_b b^x$		
$b^{\log_b x}$		

4. Get Organized Fill in each box to compare and contrast the two kinds of logarithms. Give general forms and examples. Simplify, if appropriate. (p. 533).

	COMMON LOGARITHMS	NATURAL LOGARITHMS
BASE	10	$e = 2.718\ldots$
LOGARITHMIC FORM	$\log x = y$ $\log 100 = 2$	$\ln x = y$ $\ln 100 \approx 4.6$
EXPONENTIAL FORM	$x = 10^y$ $100 = 10^2$	$x = e^y$ $100 \approx e^{4.6}$
$\log_b 1$	$\log 1 = 0$	$\ln 1 = 0$
$\log_b b$	$\log 10 = 1$	$\ln e = 1$
$\log_b b^x$	$\log 10^x = x$	$\ln e^x = x$
$b^{\log_b x}$	$10^{\log x} = x$	$e^{\ln x} = x$