TABLE 3-1 **Summary of rules for propagation of uncertainty**

Function	Uncertainty	Function[a]	Uncertainty[b]
$y = x_1 + x_2$	$e_y = \sqrt{e_{x_1}^2 + e_{x_2}^2}$	$y = x^a$	$\%e_y = a\%e_x$
$y = x_1 - x_2$	$e_y = \sqrt{e_{x_1}^2 + e_{x_2}^2}$	$y = \log x$	$e_y = \dfrac{1}{\ln 10}\dfrac{e_x}{x} \approx 0.434\,29\,\dfrac{e_x}{x}$
$y = x_1 \cdot x_2$	$\%e_y = \sqrt{\%e_{x_1}^2 + \%e_{x_2}^2}$	$y = \ln x$	$e_y = \dfrac{e_x}{x}$
$y = \dfrac{x_1}{x_2}$	$\%e_y = \sqrt{\%e_{x_1}^2 + \%e_{x_2}^2}$	$y = 10^x$	$\dfrac{e_y}{y} = (\ln 10)\, e_x \approx 2.302\,6\, e_x$
		$y = \mathrm{e}^x$	$\dfrac{e_y}{y} = e_x$