

Fill in each cell of the pictured 6×6 board with one of the following six functions.

$$\sin x, \cos x, -\sin x, -\cos x, e^{-x}, \text{ and } -e^{-x}$$

Furthermore, each function should appear exactly once in each row and each column. The arrows between cells indicate a derivative relationship: there is an arrow $f(x) \rightarrow g(x)$ if $g(x) = f'(x)$ (though not all derivative relations between cells have an arrow clue).

e^{-x}	$-\sin x$	$-\cos x$	$\sin x$ \rightarrow	$\cos x$	$-e^{-x}$
$\sin x$	$-e^{-x}$	$\cos x$	$-\sin x$	e^{-x}	$-\cos x$
$-\sin x$ \leftarrow	$\cos x$	$\sin x$ \leftarrow	$-\cos x$	$-e^{-x}$	e^{-x}
$-\cos x$	e^{-x}	$-e^{-x}$	$\cos x$	$\sin x$	$-\sin x$
$\cos x$	$-\cos x$	e^{-x}	$-e^{-x}$	$-\sin x$	$\sin x$
$-e^{-x}$	$\sin x$	$-\sin x$	e^{-x}	$-\cos x$	$\cos x$

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