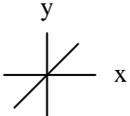
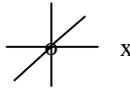


Continuity

Worksheet by David Pleacher

The functions listed in the following table have different types of behaviors on an interval containing $x = 0$. For each of the functions, complete the following table:

$y = f(x)$	Graph of $y = f(x)$	$f(0)$	$\lim_{x \rightarrow 0} f(x)$	Continuous at $x = 0$?
$f(x) = x$		0	0	Yes, no holes, gaps, or jumps
$f(x) = \frac{x^2}{x}$		Undefined	0	No, has a hole at the origin. $f(x)$ is not defined there
$f(x) = \frac{1}{x}$				
$f(x) = \frac{x}{x}$				
$f(x) = x $				
$f(x) = \frac{\sin x}{x}$				
$f(x) = \frac{ x }{x}$				
$f(x) = \sqrt{x}$				
$f(x) = \frac{1 - \cos x}{x}$				