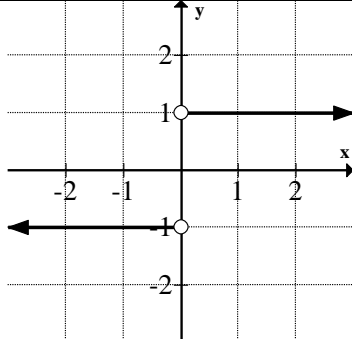
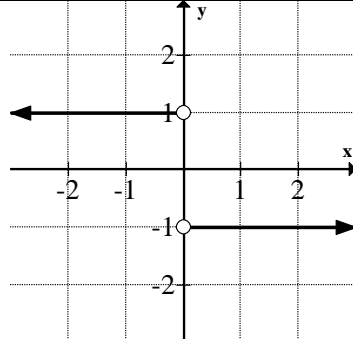
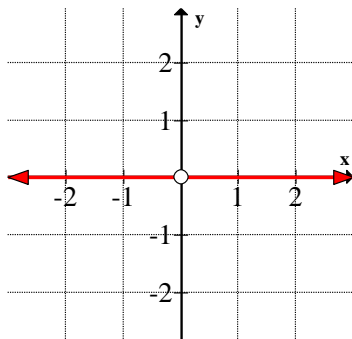
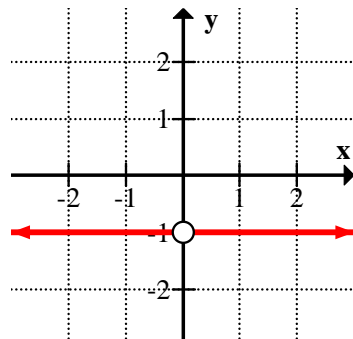


DNE + DNE \neq DNE and DNE \cdot DNE \neq DNE

$f(x) = \frac{x}{ x }$	$g(x) = -\frac{x}{ x }$
 <p>The graph of $f(x) = \frac{x}{ x }$ is shown on a Cartesian coordinate system. It consists of two horizontal rays: one at $y = 1$ for $x > 0$ and one at $y = -1$ for $x < 0$. There are open circles at $(0, 1)$ and $(0, -1)$. The x-axis is labeled from -2 to 2, and the y-axis is labeled from -2 to 2.</p> <p>$\lim_{x \rightarrow 0} f(x)$ DNE</p>	 <p>The graph of $g(x) = -\frac{x}{ x }$ is shown on a Cartesian coordinate system. It consists of two horizontal rays: one at $y = -1$ for $x > 0$ and one at $y = 1$ for $x < 0$. There are open circles at $(0, -1)$ and $(0, 1)$. The x-axis is labeled from -2 to 2, and the y-axis is labeled from -2 to 2.</p> <p>$\lim_{x \rightarrow 0} g(x)$ DNE</p>
$h(x) = f(x) + g(x)$	$k(x) = f(x) \cdot g(x)$
 <p>The graph of $h(x) = f(x) + g(x)$ is shown on a Cartesian coordinate system. It is a horizontal red line at $y = 0$ for all $x \neq 0$. There is an open circle at $(0, 0)$. The x-axis is labeled from -2 to 2, and the y-axis is labeled from -2 to 2.</p> <p>$\lim_{x \rightarrow 0} [h(x)] = \lim_{x \rightarrow 0} [f(x) + g(x)]$ $0 = \lim_{x \rightarrow 0} f(x) + \lim_{x \rightarrow 0} g(x)$ $0 = \text{DNE} + \text{DNE}$</p>	 <p>The graph of $k(x) = f(x) \cdot g(x)$ is shown on a Cartesian coordinate system. It is a horizontal red line at $y = -1$ for all $x \neq 0$. There is an open circle at $(0, -1)$. The x-axis is labeled from -2 to 2, and the y-axis is labeled from -2 to 2.</p> <p>$\lim_{x \rightarrow 0} [k(x)] = \lim_{x \rightarrow 0} [f(x) \cdot g(x)]$ $-1 = \left[\lim_{x \rightarrow 0} f(x) \right] \cdot \left[\lim_{x \rightarrow 0} g(x) \right]$ $-1 = \text{DNE} \cdot \text{DNE}$</p>