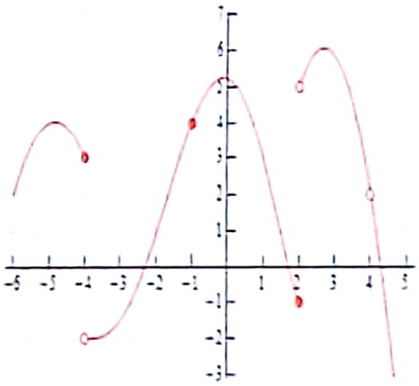
$$\lim_{x \to a^+} f(x) = \lim_{x \to a^-} f(x) = L$$

then the normal limit will exist and

$$\lim_{x \to a} f(x) = L$$

1. The graph of $f(x)$ is given below. Based on this graph determine where the function is discontinuous (PROVE)

$x = -4$	$x = 2$	$x = 4$
$\lim_{x \to -4^-} f(x) = 3$	$\lim_{x \to 2^-} f(x) = -1$	$\lim_{x \to 4^-} f(x) = 2$
$\lim_{x \to -4^+} f(x) = -2$	$\lim_{x \to 2^+} f(x) = 5$	$\lim_{x \to 4^+} f(x) = 2$
$\lim_{x \to -4} f(x) = \text{DNE}$	$\lim_{x \to 2} f(x) = \text{DNE}$	$\lim_{x \to 4} f(x) = 2$
$f(-4) = 3$	$f(2) = -1$	$f(4) = \text{DNE}$



2. The graph of $f(x)$ is given below. Based on this graph determine where the function is discontinuous