

## One-sided Limits

p. 98 - 105 (2.2)

# 5

1.  $\lim_{x \rightarrow c^+} f(x) = L$  means the limit from the right
  2.  $\lim_{x \rightarrow c^-} f(x) = L$  means the limit from the left
  3.  $\lim_{x \rightarrow c} f(x) = L$  if and only if (iff)  $\lim_{x \rightarrow c^-} f(x) = \lim_{x \rightarrow c^+} f(x)$
  4. Continuous on a closed interval  $[a,b]$  if continuous on  $(a,b)$  and  $\lim_{x \rightarrow a^+} f(x) = f(a)$  and  $\lim_{x \rightarrow b^-} f(x) = f(b)$ .
- 

Use the graph of  $g(x)$  to answer questions 1 - 6.

1.  $\lim_{x \rightarrow (-3)^+} g(x) = 2$
2.  $\lim_{x \rightarrow (-3)^-} g(x) = -5$
3.  $\lim_{x \rightarrow 0^-} g(x) = -\infty$  (DNE)
4.  $g(-3) = -5$
5.  $\lim_{x \rightarrow -6^-} g(x) = \text{DNE}$
6.  $\lim_{x \rightarrow -6^+} g(x) = -6$

