## Limits Worksheet

1. For the function $G$ graphed in the accompanying figure, find
(a) $\lim _{x \rightarrow 0^{-}} G(x)$
(b) $\lim _{x \rightarrow 0^{+}} G(x)$
(c) $\lim _{x \rightarrow 0} G(x)$
(b) $G(0)$

2. For the function $f$ graphed in the accompanying figure, find
(a) $\lim _{x \rightarrow 3^{-}} f(x)$
(b) $\lim _{x \rightarrow 3^{+}} f(x)$
(c) $\lim _{x \rightarrow 3} f(x)$
(b) $f(3)$

3. For the function $f$ graphed in the accompanying figure, find
(a) $\lim _{x \rightarrow 3^{-}} f(x)$
(b) $\lim _{x \rightarrow 3^{+}} f(x)$
(c) $\lim _{x \rightarrow 3} f(x)$
(b) $\quad f(3)$

4. For the function $f$ graphed in the accompanying figure, find
(a) $\lim _{x \rightarrow-1^{-}} f(x)$
(b) $\lim _{x \rightarrow-1^{+}} f(x)$
(c) $\lim _{x \rightarrow-1} f(x)$
(c) $\lim _{x \rightarrow-1^{-}} f(x)$
(d) $\lim _{x \rightarrow-1^{+}} f(x)$
(e) $\lim _{x \rightarrow-1} f(x)$

5. For the function $g$ graphed in the accompanying figure, find
(a) $\lim _{x \rightarrow 1^{-}} g(x)$
(b) $\lim _{x \rightarrow 1^{+}} g(x)$
(c) $\lim _{x \rightarrow 1} g(x)$
(b) $g(1)$

6. On the axes provided below, sketch a possible graph for a function $f$ with the specified properties.
i. the domain is $[-1,1]$
ii. $f(-1)=f(0)=f(1)=0$
iii. $\lim _{x \rightarrow-1^{+}} f(x)=\lim _{x \rightarrow 0} f(x)=\lim _{x \rightarrow 1^{-}} f(x)=1$

7. On the axes provided below, sketch a possible graph for a function $f$ with the specified properties.
i. the domain is $[-\infty, 1]$
ii. $f(-2)=f(1)=1$
iii. $\lim _{x \rightarrow-2} f(x)=+\infty$

8. On the axes provided below, sketch a possible graph for a function $f$ with the specified properties.
i. the domain is $[-2,1]$
ii. $f(-2)=f(0)=f(1)=0$
iii. $\lim _{x \rightarrow-2^{+}} f(x)=2, \lim _{x \rightarrow 0} f(x)=0, \lim _{x \rightarrow 1^{-}} f(x)=1$

