

# Keeper 2.1 – Limits from Graphs and Graphs from Limits

## Virtual Practice Problems

### Finding Limits from Tables

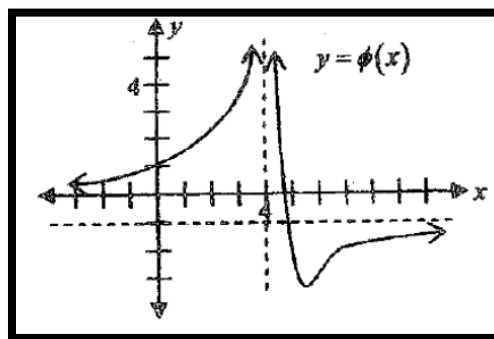
1. 

x	-0.3	-0.2	-0.1	0	0.1	0.2	0.3
f(x)	1.971	1.987	1.997	undefined	1.997	1.987	1.971
g(x)	2.018	2.008	2.002	2	2.002	2.008	2.018
h(x)	1	1	1	2	2	2	2
- a.  $\lim_{x \rightarrow 0} f(x)$
- b.  $\lim_{x \rightarrow 0} g(x)$
- c.  $\lim_{x \rightarrow 0} h(x)$

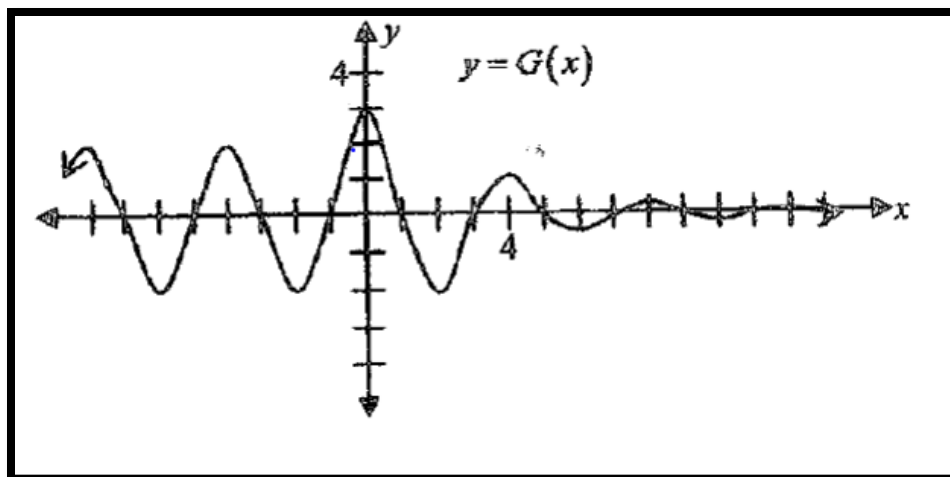
2. 

x	2.75	2.9	2.99	2.999	3	3.001	3.01	3.1	3.25
f(x)	5.313	5.710	5.970	5.997	6	6.003	6.030	6.310	6.813
g(x)	1.99499	1.99950	1.99995	1.99999	und	2.00005	2.00050	2.00499	2.01
h(x)	1.99499	1.99950	1.99995	1.99999	2	6.003	6.030	6.310	6.813
- a.  $\lim_{x \rightarrow 3} f(x)$
- b.  $\lim_{x \rightarrow 3} g(x)$
- c.  $\lim_{x \rightarrow 3} h(x)$

### Finding Limits from Graphs



3.  $\lim_{x \rightarrow 4^-} \phi(x)$
4.  $\lim_{x \rightarrow 4^+} \phi(x)$
5.  $\lim_{x \rightarrow 4} \phi(x)$
6.  $\phi(4)$
7.  $\lim_{x \rightarrow -\infty} \phi(x)$
8.  $\lim_{x \rightarrow \infty} \phi(x)$



9.  $\lim_{x \rightarrow 0^-} G(x)$

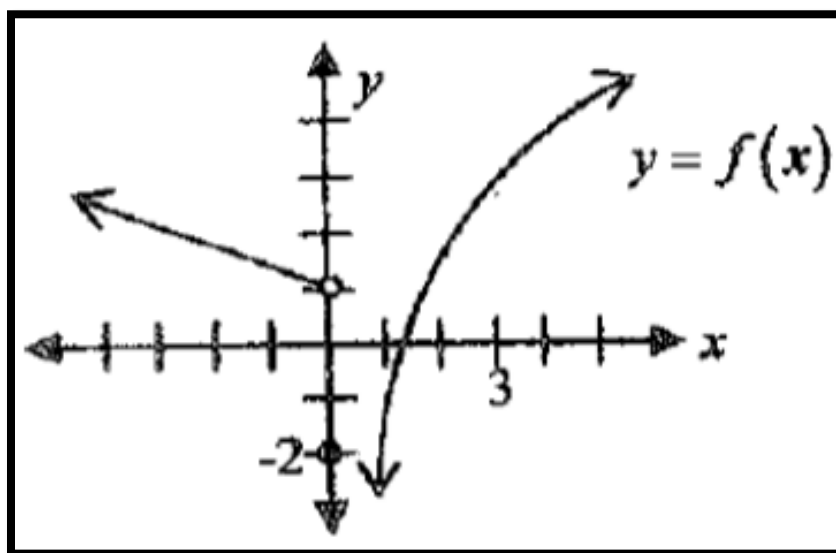
10.  $\lim_{x \rightarrow 0^+} G(x)$

11.  $\lim_{x \rightarrow 0} G(x)$

12.  $G(0)$

13.  $\lim_{x \rightarrow -\infty} G(x)$

14.  $\lim_{x \rightarrow +\infty} G(x)$



15.  $\lim_{x \rightarrow 0^-} f(x)$

16.  $\lim_{x \rightarrow 0^+} f(x)$

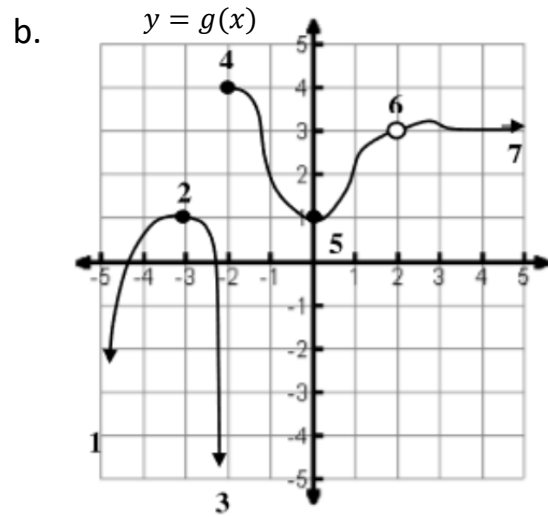
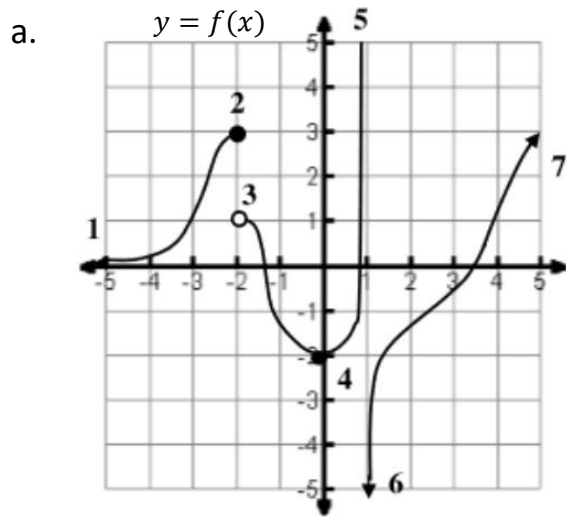
17.  $\lim_{x \rightarrow 0} f(x)$

18.  $f(0)$

19.  $\lim_{x \rightarrow -\infty} f(x)$

20.  $\lim_{x \rightarrow +\infty} f(x)$

21. Describe the behavior of the graph at each numbered location using limits.

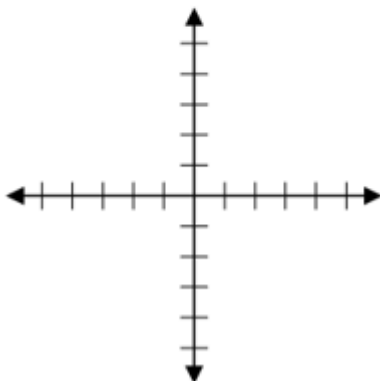


- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

**Drawing Graphs from Limits**

22.  $\lim_{x \rightarrow \infty} g(x) = -2$   
 $\lim_{x \rightarrow 0} g(x) = \infty$   
 $\lim_{x \rightarrow -\infty} g(x) = -2$   
 $g(0) = -1$



23.  $\lim_{x \rightarrow \infty} h(x) = -\infty$   
 $\lim_{x \rightarrow 1^+} h(x) = \infty$   
 $\lim_{x \rightarrow 1^-} h(x) = -\infty$   
 $\lim_{x \rightarrow -\infty} h(x) = \infty$

