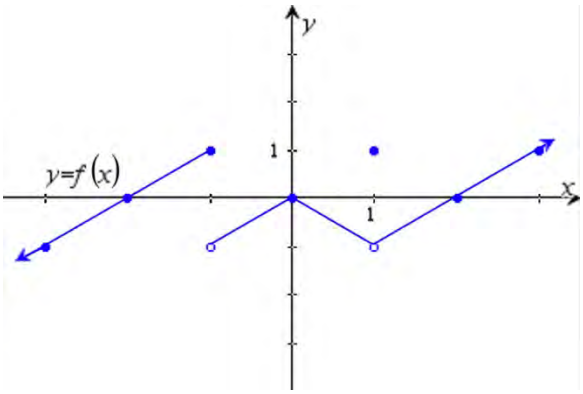
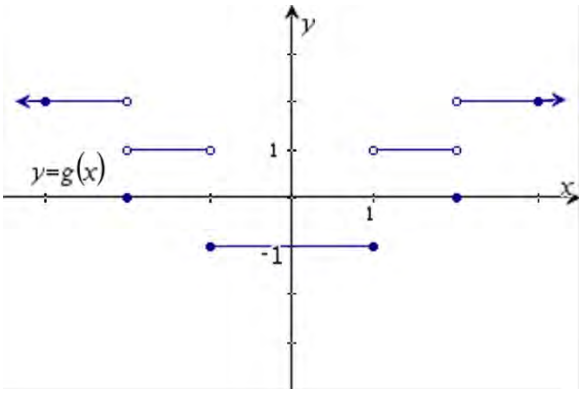




(Dick p. 110) The two functions *f* and *g* have graphs as shown above. Fill out the table for the defined function *h(x)* in exercises 1-8 and complete the graph for *h(x)* in exercises 3-8 on the given axes over the interval [-3, 3].

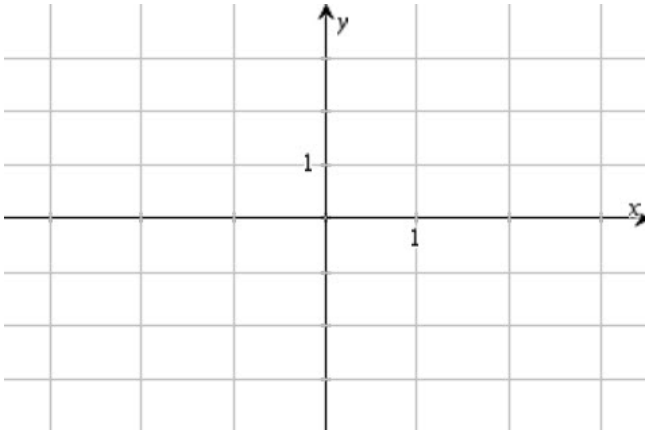
1. $h(x) = f(x)$

Input $x = a$	Output $h(a)$	Left-hand Limit $\lim_{x \to a^-} h(x)$	Right-hand Limit $\lim_{x \to a^+} h(x)$	Limit $\lim_{x \to a} h(x)$	Is h(x) continuous at $x = a$?
-3					
-2					
-1					
0					
1					
2					
3					

2. $h(x) = g(x)$

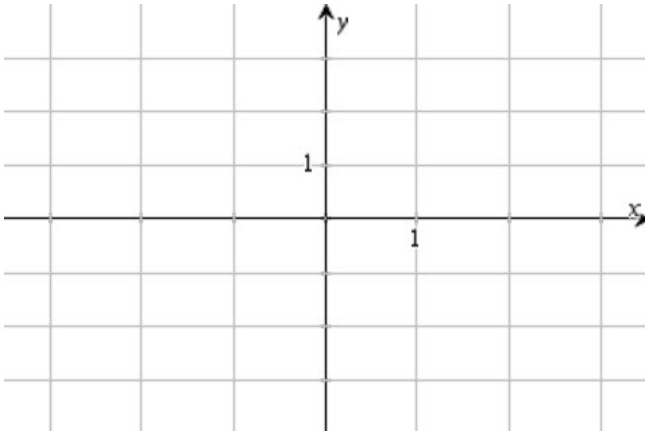
Input $x = a$	Output $h(a)$	Left-hand Limit $\lim_{x \to a^-} h(x)$	Right-hand Limit $\lim_{x \to a^+} h(x)$	Limit $\lim_{x \to a} h(x)$	Is h(x) continuous at $x = a$?
-3					
-2					
-1					
0					
1					
2					
3					

3. $h(x) = f(x) + g(x)$



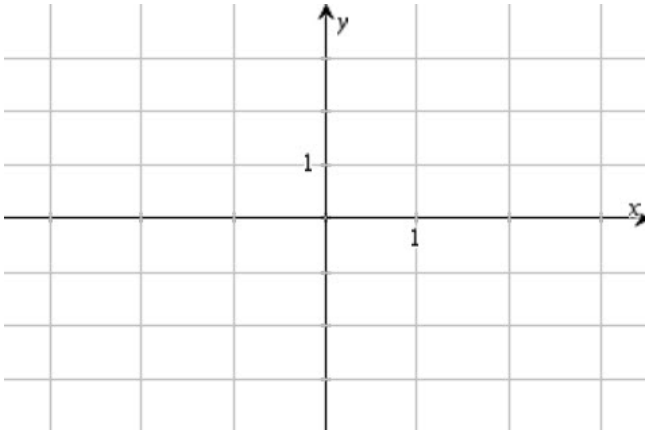
Input $x = a$	Output $h(a)$	Left-hand Limit $\lim_{x \to a^-} h(x)$	Right-hand Limit $\lim_{x \to a^+} h(x)$	Limit $\lim_{x \to a} h(x)$	Is h(x) continuous at $x = a$?
-3					
-2					
-1					
0					
1					
2					
3					

4. $h(x) = f(x) - g(x)$



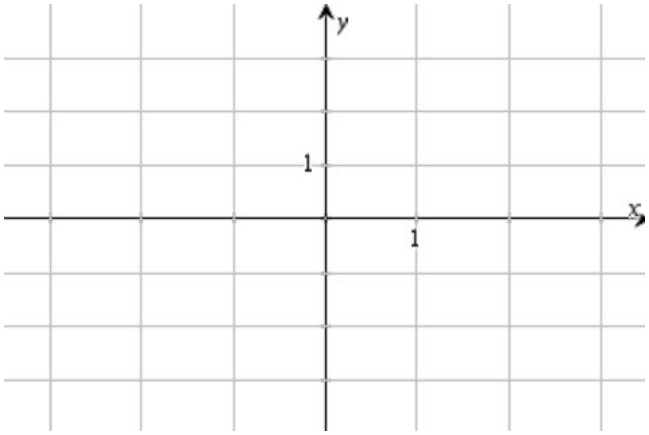
Input $x = a$	Output $h(a)$	Left-hand Limit $\lim_{x \to a^-} h(x)$	Right-hand Limit $\lim_{x \to a^+} h(x)$	Limit $\lim_{x \to a} h(x)$	Is h(x) continuous at $x = a$?
-3					
-2					
-1					
0					
1					
2					
3					

5. $h(x) = f(x) \cdot g(x)$



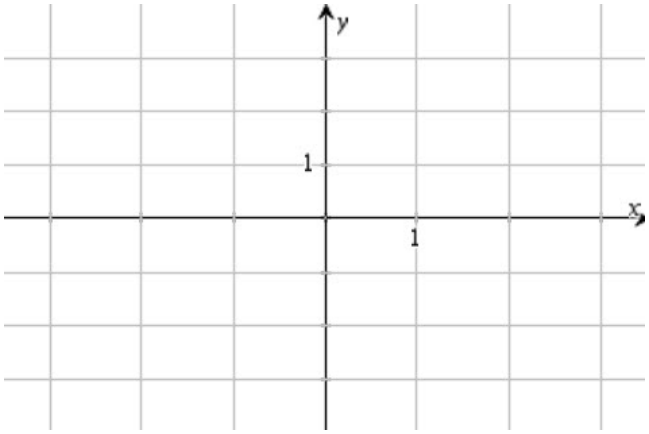
Input $x = a$	Output $h(a)$	Left-hand Limit $\lim_{x \to a^-} h(x)$	Right-hand Limit $\lim_{x \to a^+} h(x)$	Limit $\lim_{x \to a} h(x)$	Is h(x) continuous at $x = a$?
-3					
-2					
-1					
0					
1					
2					
3					

6. $h(x) = 2 \cdot f(x)$



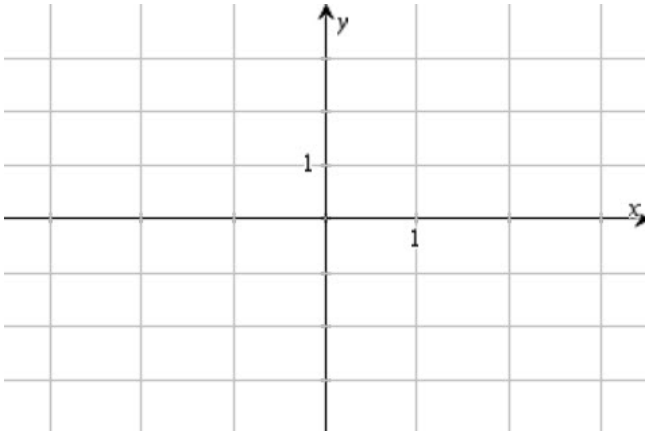
Input $x = a$	Output $h(a)$	Left-hand Limit $\lim_{x \to a^-} h(x)$	Right-hand Limit $\lim_{x \to a^+} h(x)$	Limit $\lim_{x \to a} h(x)$	Is h(x) continuous at $x = a$?
-3					
-2					
-1					
0					
1					
2					
3					

7. $h(x) = f(g(x))$



Input $x = a$	Output $h(a)$	Left-hand Limit $\lim_{x \to a^-} h(x)$	Right-hand Limit $\lim_{x \to a^+} h(x)$	Limit $\lim_{x \to a} h(x)$	Is h(x) continuous at $x = a$?
-3					
-2					
-1					
0					
1					
2					
3					

8. $h(x) = g(f(x))$



Input $x = a$	Output $h(a)$	Left-hand Limit $\lim_{x \to a^-} h(x)$	Right-hand Limit $\lim_{x \to a^+} h(x)$	Limit $\lim_{x \to a} h(x)$	Is h(x) continuous at $x = a$?
-3					
-2					
-1					
0					
1					
2					
3					