Quiz 1.9

Name

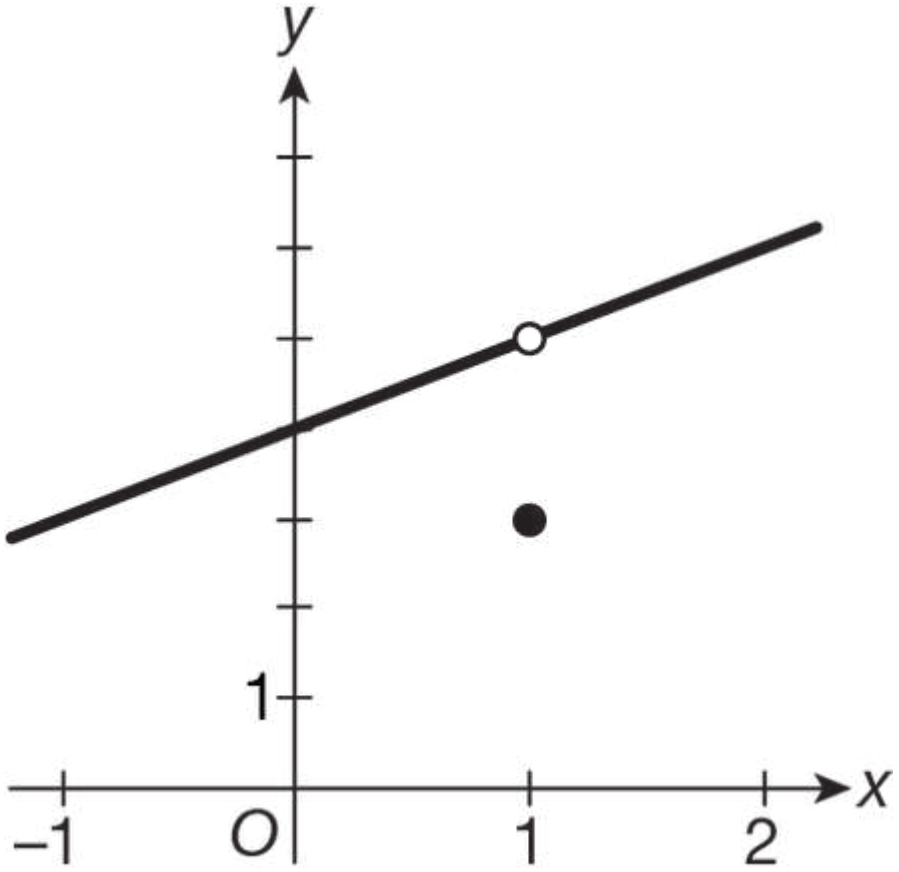
1. Let g be a function that is increasing for $x < 1$ and increasing for $x > 1$. If $\lim_{x \to 1} g(x) = 5$, which of the following could represent the function g ?

1. $g(x) = \begin{cases} \frac{x^2+3x-4}{x-1} & \text{for} \quad x \neq 1 \\ 3 & \text{for} \quad x = 1 \end{cases}$

2.

x	0.8	0.9	0.95	0.999	1	1.001	1.05	1.1	1.2
$g(x)$	25	50	100	5000	5	-5000	-100	-50	-25

3.



(A) I only

(B) II only

(C) III only

(D) I and III only

Quiz 1.9

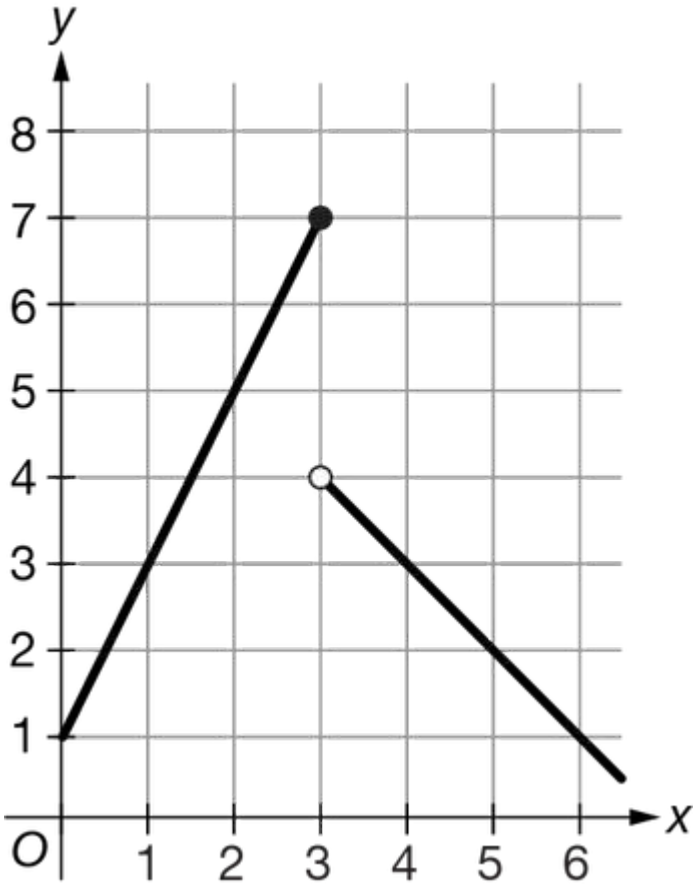
2. If h is a piecewise linear function such that $\lim_{x \to 3} h(x)$ does not exist, which of the following could represent the function h ?

1. $h(x) = \begin{cases} 2x + 1 & \text{for } x < 3 \\ \text{undefined} & \text{for } x = 3 \\ 10 - x & \text{for } x > 3 \end{cases}$

2.

x	2.6	2.7	2.8	2.9	3	3.1	3.2	3.3	3.4
$h(x)$	6.2	6.4	6.6	6.8	7	3.9	3.8	3.7	3.6

3.



(A) I only

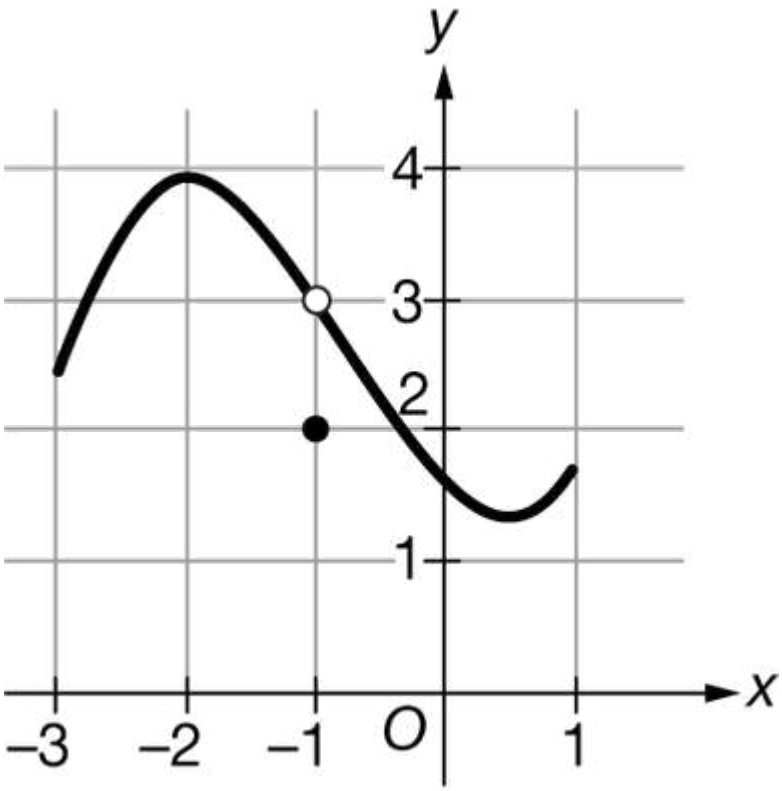
(B) II only

(C) III only

(D) II and III only

Quiz 1.9

3.



Graph of f

The graph of the function f is shown above. Which of the following could be a table of values for f ?

(A)

x	-1.05	-1.001	-1	-0.999	-0.95
$f(x)$	3.074	3.001	2	1.998	1.924

(B)

x	-1.05	-1.001	-1	-0.999	-0.95
$f(x)$	3.074	3.001	2	2.998	2.924

(C)

x	-1.05	-1.001	-1	-0.999	-0.95
$f(x)$	3.074	3.001	3	2.998	2.924

(D)

x	-1.05	-1.001	-1	-0.999	-0.95
$f(x)$	3.074	3.001	undefined	2.998	2.924