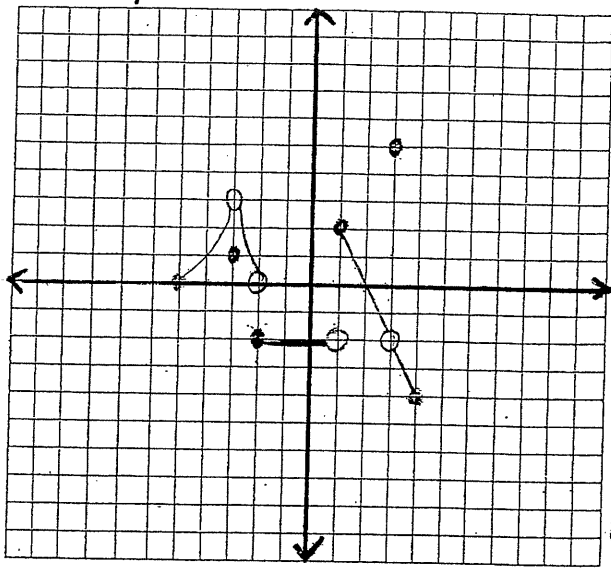


Limits Properties Worksheet

Chapter 1.2



1) Find the value of the given quantity

a) $f(-3) =$ f) $\lim_{x \rightarrow 1} f(x) =$

b) $\lim_{x \rightarrow 3} f(x) =$ g) $f(2) =$

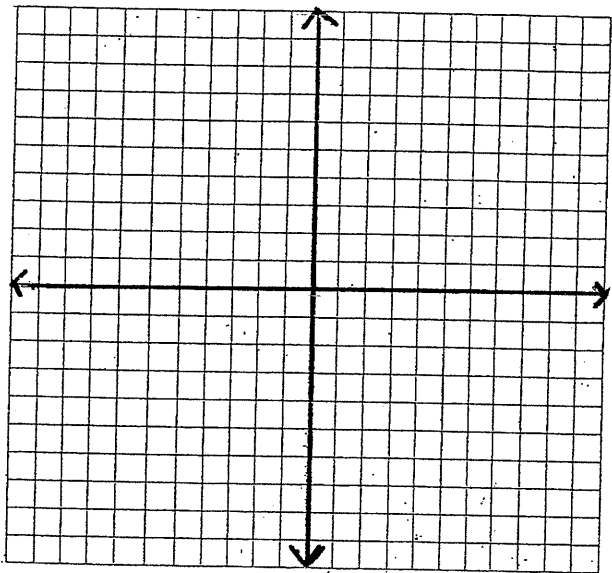
c) $\lim_{x \rightarrow -1} f(x) =$ h) $\lim_{x \rightarrow 2} f(x) =$

d) $\lim_{x \rightarrow -2} f(x) =$ i) $\lim_{x \rightarrow 3} f(x) =$

e) $f(1) =$ j) $\lim_{x \rightarrow 4} f(x) =$

k) $f(3) =$

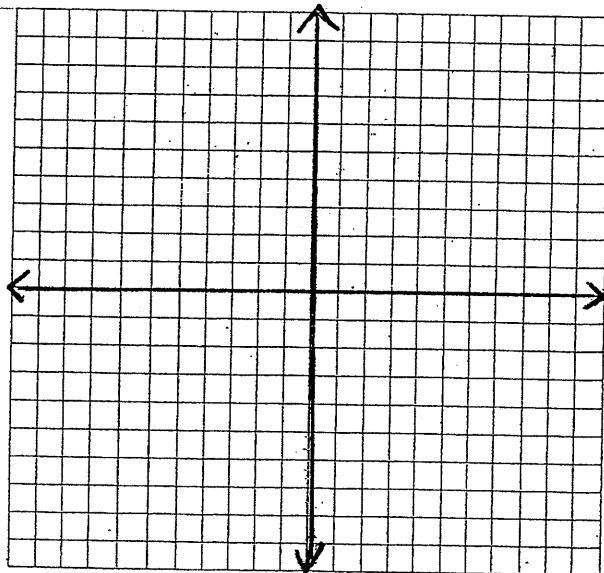
2) For graph #1, identify values of c which $\lim_{x \rightarrow c} f(x)$ exists



3) Sketch a graph of a function that satisfies the given values.

a) $g(2)$ is undefined. c) $g(-3) = 4$

b) $\lim_{x \rightarrow 2} g(x) = -4$ d) $\lim_{x \rightarrow -3} g(x)$ does not exist



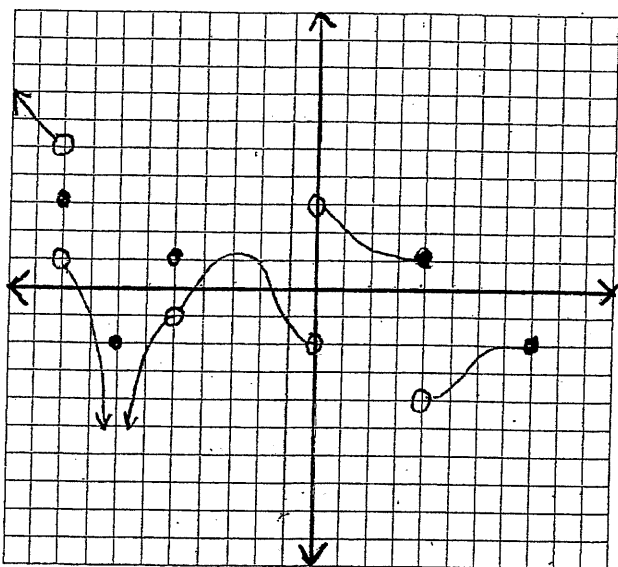
4) Sketch graph that satisfies the given values

a) $h(-4) = -2$ e) $\lim_{x \rightarrow 3} h(x) = -3$

b) $\lim_{x \rightarrow -4} h(x) = -2$ f) $h(3)$ is undefined

c) $h(-1) = 5$ g) $h(6) = 2$

d) $\lim_{x \rightarrow -1} h(x) = +\infty$ h) $\lim_{x \rightarrow 6} h(x)$ does not exist



5) Find the value of the given quantity

a) $f(-9) =$

f) $\lim_{x \rightarrow 3} f(x) =$

b) $\lim_{x \rightarrow -9} f(x) =$

g) $f(0) =$

c) $f(-7) =$

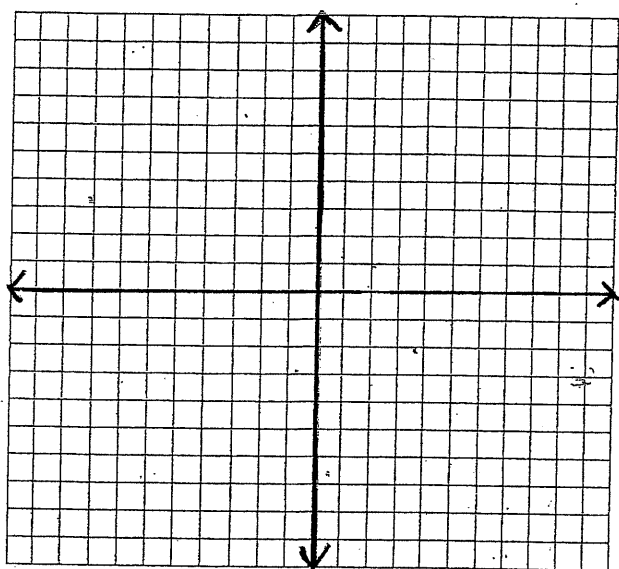
h) $\lim_{x \rightarrow 0} f(x) =$

d) $\lim_{x \rightarrow -7} f(x) =$

i) $\lim_{x \rightarrow 4} f(x) =$

e) $f(-5) =$

j) $\lim_{x \rightarrow 8} f(x) =$



6) For graph #5, identify values of c which $\lim_{x \rightarrow c} f(x)$ exists

7) Sketch a graph of a function that satisfies the given values.

a) $f(-5) = 3$

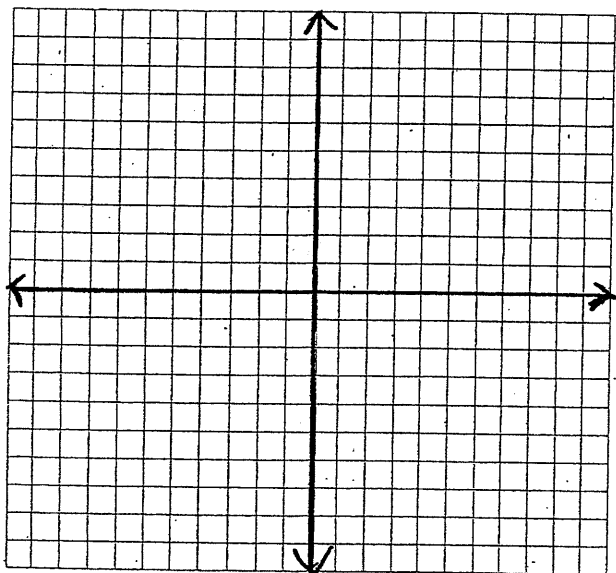
d) $f(0) = 3$

b) $\lim_{x \rightarrow -2} f(x) =$ Does not exist

e) $\lim_{x \rightarrow 0} f(x) = 3$

c) $f(-2) = -4$

f) $\lim_{x \rightarrow 3} f(x) = -\infty$



8) Sketch graph satisfying the given values

a) $h(-6) = 7$

e) $\lim_{x \rightarrow 2} h(x) = 5$

b) $\lim_{x \rightarrow -6} h(x) = 2$

f) $h(2) = -3$

c) $h(-3) = 4$

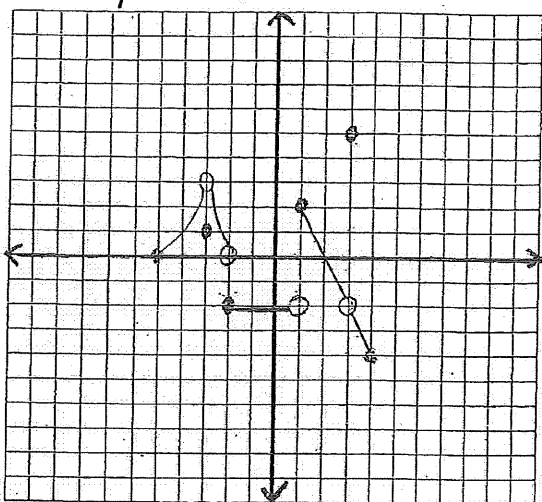
g) $\lim_{x \rightarrow 5} h(x) = 0$

d) $\lim_{x \rightarrow -1} h(x) =$ Does not exist

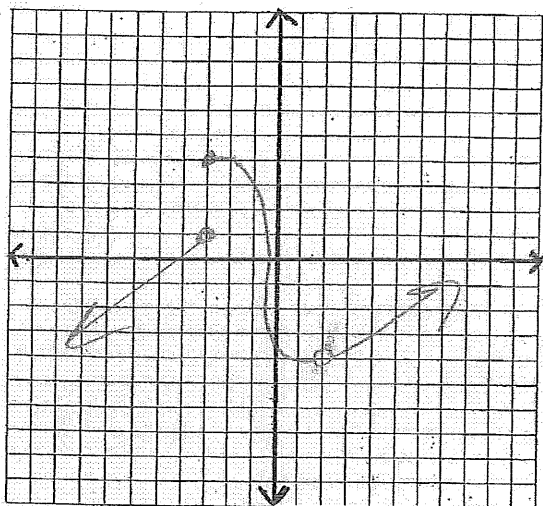
h) $f(5)$ is undefined

Limits Properties Worksheet
Chapter 1.2

Answer Key



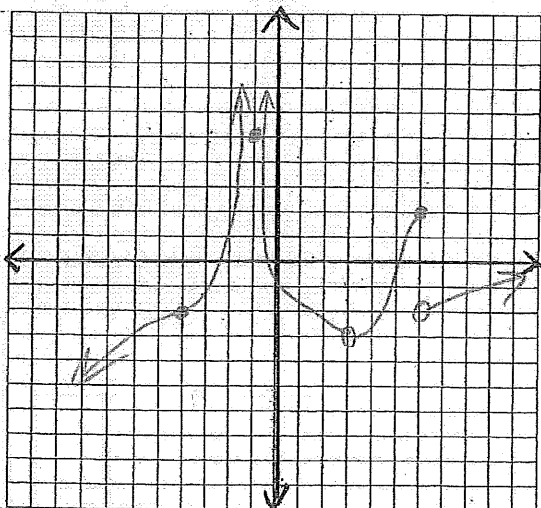
- 1) Find the value of the given quantity.
- a) $f(-3) = 1$ f) $\lim_{x \rightarrow 1} f(x) = \text{DNE}$
- b) $\lim_{x \rightarrow 3} f(x) = 3$ g) $f(2) = 0$
- c) $\lim_{x \rightarrow -1} f(x) = -2$ h) $\lim_{x \rightarrow 2} f(x) = 0$
- d) $\lim_{x \rightarrow 2} f(x) = \text{DNE}$ i) $\lim_{x \rightarrow 3} f(x) = -2$
- e) $f(1) = 2$ j) $\lim_{x \rightarrow 4^+} f(x) = -4$
- k) $f(3) = \frac{5}{2}$



- 2) For graph #1, identify values of c which $\lim_{x \rightarrow c} f(x)$ exists.
- $(-5, -2) \cup (-2, 1) \cup (1, 4)$

3) Sketch a graph of a function that satisfies the given values.

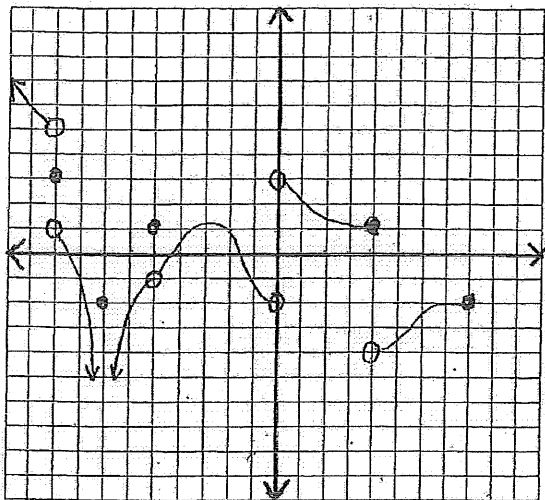
- a) $g(2)$ is undefined. c) $g(-3) = 4$
- b) $\lim_{x \rightarrow 2} g(x) = -4$ d) $\lim_{x \rightarrow -3} g(x)$ does not exist



4) Sketch graph that satisfies the given values

- a) $h(-4) = -2$ e) $\lim_{x \rightarrow 3} h(x) = -3$
- b) $\lim_{x \rightarrow -4} h(x) = -2$ f) $h(3)$ is undefined
- c) $h(-1) = 5$ g) $h(6) = 2$
- d) $\lim_{x \rightarrow -1} h(x) = +\infty$ h) $\lim_{x \rightarrow 6} h(x)$ does not exist

Note: the graphs for #3, 4 may vary



5) Find the value of the given quantity

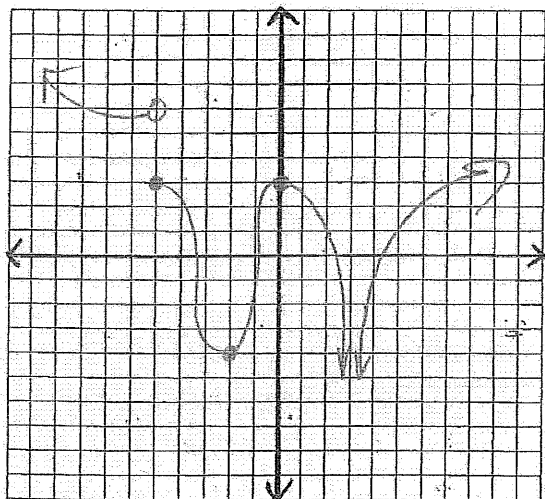
a) $f(-9) = 3$ f) $\lim_{x \rightarrow 3} f(x) = -1$

b) $\lim_{x \rightarrow -9} f(x) = \text{DNE}$ g) $f(0) = \text{undefined}$

c) $f(-7) = -2$ h) $\lim_{x \rightarrow 0} f(x) = \text{DNE}$

d) $\lim_{x \rightarrow -7} f(x) = -\infty$ i) $\lim_{x \rightarrow 4} f(x) = \text{DNE}$

e) $f(-5) = 1$ j) $\lim_{x \rightarrow 8} f(x) = \text{DNE}$



6) For graph #5, identify values of c which

$\lim_{x \rightarrow c} f(x)$ exists

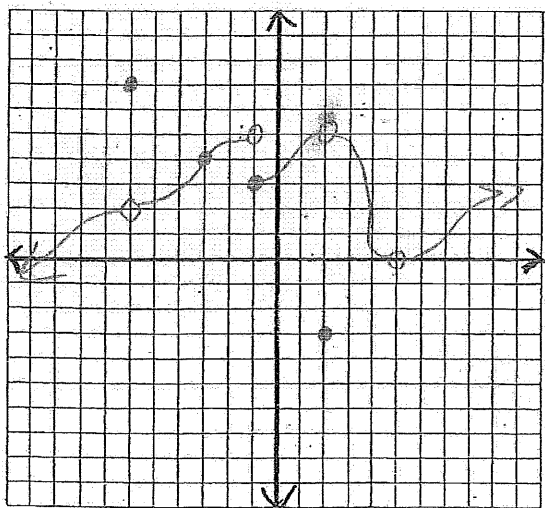
$(-\infty, -9) \cup (-9, -7) \cup (-7, 0) \cup (0, 4) \cup (4, 8)$

7) Sketch a graph of a function that satisfies the given values.

a) $f(-5) = 3$ d) $f(0) = 3$

b) $\lim_{x \rightarrow -2} f(x) = \text{Does not exist}$ e) $\lim_{x \rightarrow 0} f(x) = 3$

c) $f(-2) = -4$ f) $\lim_{x \rightarrow 3} f(x) = -\infty$



8) Sketch graph satisfying the given values

a) $h(-6) = 7$ e) $\lim_{x \rightarrow 2} h(x) = 5$

b) $\lim_{x \rightarrow -6} h(x) = 2$ f) $h(2) = -3$

c) $h(-3) = 4$ g) $\lim_{x \rightarrow 5} h(x) = 0$

d) $\lim_{x \rightarrow -1} h(x) = \text{Does not exist}$ h) $f(5)$ is undefined

Note: answers to #7, 8 may vary