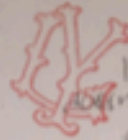


# Limits graphically

numbers  
graph  
31 algebra



Limits Graphically  
By: Lic. Lucy Solis



limit  
doesn't exist  
empty  
space

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I. Based on the graph find the following limits.

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

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

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

d)  $\lim_{x \rightarrow 1^+} f(x) = 2$

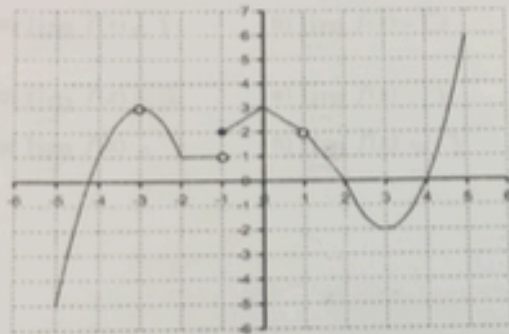
e)  $\lim_{x \rightarrow 1^-} f(x) = 2$

f)  $\lim_{x \rightarrow 1} f(x) = 2$   $f(1) = \cancel{2}$

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

h)  $\lim_{x \rightarrow 3^+} f(x) = -2$

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



\*  $\lim_{x \rightarrow -1^+} f(x) = 2$

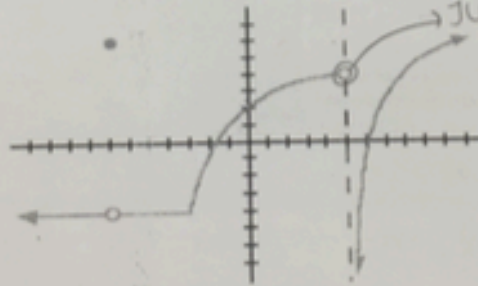
\*  $\lim_{x \rightarrow -1^-} f(x) = 1$

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

\*  $f(-1) = 2$

II. Given this graph of f(x) answer the following:

Reading  
y's



Just for value (dot/cont. lines)  
Limits → lines on graph / tendency

1)  $f(5) = \cancel{3}$

2)  $f(-7) = 6$

3)  $\lim_{x \rightarrow 0^+} f(x) = 2$

4)  $\lim_{x \rightarrow 0^-} f(x) = 2$

5)  $\lim_{x \rightarrow 0} f(x) = 2$   $f(0) = 2$

6)  $\lim_{x \rightarrow 1^+} f(x) = -4$

7)  $\lim_{x \rightarrow 1^-} f(x) = -4$

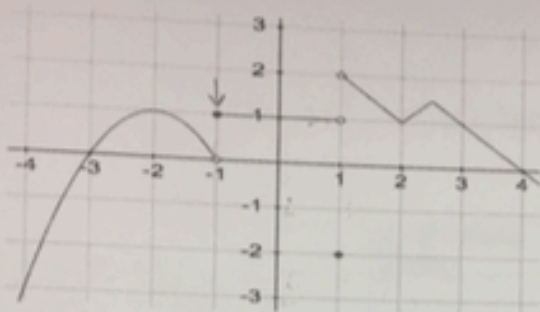
8)  $\lim_{x \rightarrow 1} f(x) = -4$   $f(-7) = 6$

9)  $\lim_{x \rightarrow 5^-} f(x) = 4$

10)  $\lim_{x \rightarrow 5^+} f(x) = -\infty$

11)  $\lim_{x \rightarrow 5} f(x) = \cancel{3}$   $f(5) = \cancel{3}$

III. Based on the graph find the limits



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

b)  $\lim_{x \rightarrow 1} f(x) = 0$

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

d)  $\lim_{x \rightarrow 1} f(x) = 2$

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

f)  $\lim_{x \rightarrow 1} f(x) = \cancel{1} \quad f(1) = -2$

g)  $\lim_{x \rightarrow 2} f(x) = 1$

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

i)  $\lim_{x \rightarrow 2} f(x) = 1 \quad f(2) = 1$