Day 2 is Tuesday, January 15, 2013

Resume Class Drill 1 Limits

Working on row where $x = -1$

We have already found $f(-1) = 1$ because dot at $(-1, 1)$

We have discussed the fact that

when x is close to -1 but to left of -1, y is close to 1.

This brings up the concept of the "one-sided-limit"

Symbol $\lim_{x \to -1^-} f(x) = 1$

Now consider x values close to -1 but to right of -1.

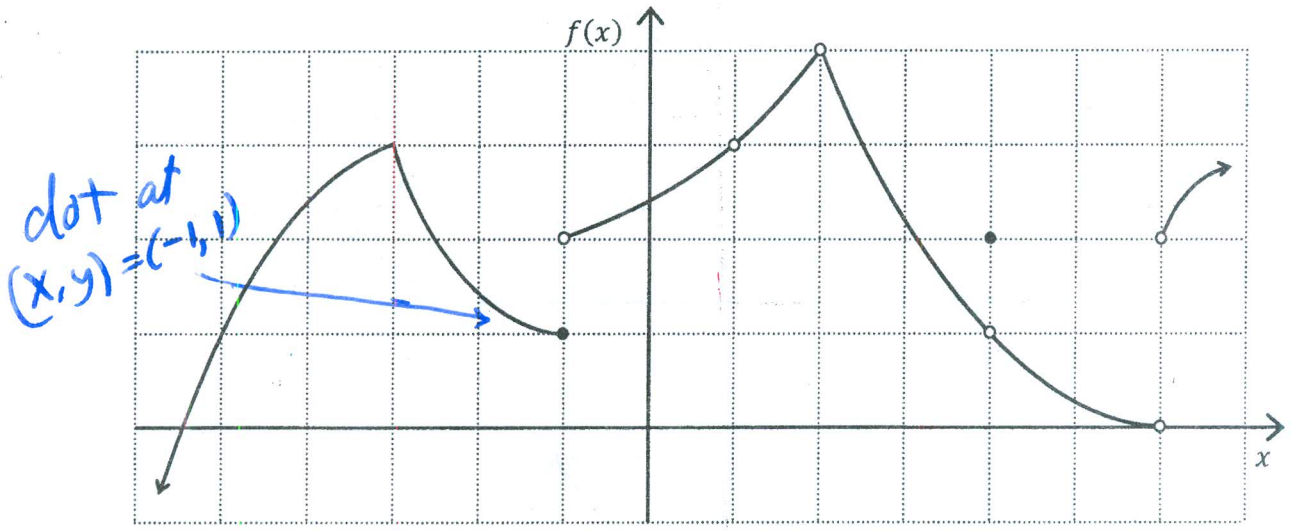
When x is close to -1 but to right of -1, the y values are close to 2.

Symbol: $\lim_{x \to -1^+} f(x) = 2$

(2)

Class Drill 1: Limits

Use the graph to fill in the table. (Extra copies of the graph are on back.)



x-value	limit from left	limit from right	limit	y-value
−5	$\lim_{x\to -5^-} f(x) =$	$\lim_{x\to -5^+} f(x) =$	$\lim_{x\to -5} f(x) =$	$f(-5) =$
−3	$\lim_{x\to -3^-} f(x) =$	$\lim_{x\to -3^+} f(x) =$	$\lim_{x\to -3} f(x) =$	$f(-3) =$
−1	$\lim_{x\to -1^-} f(x) = 1$	$\lim_{x\to -1^+} f(x) = 2$	$\lim_{x\to -1} f(x) =$ DNE	$f(-1) = 1$
1	$\lim_{x\to 1^-} f(x) = 3$	$\lim_{x\to 1^+} f(x) = 3$	$\lim_{x\to 1} f(x) = 3$	$f(1) =$ DNE
2	$\lim_{x\to 2^-} f(x) =$	$\lim_{x\to 2^+} f(x) =$	$\lim_{x\to 2} f(x) =$	$f(2) =$
4	$\lim_{x\to 4^-} f(x) = 1$	$\lim_{x\to 4^+} f(x) = 1$	$\lim_{x\to 4} f(x) = 1$	$f(4) = 2$
6	$\lim_{x\to 6^-} f(x) = 0$	$\lim_{x\to 6^+} f(x) = 2$	$\lim_{x\to 6} f(x) =$ DNE	$f(6) =$ DNE