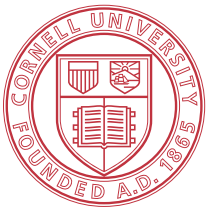
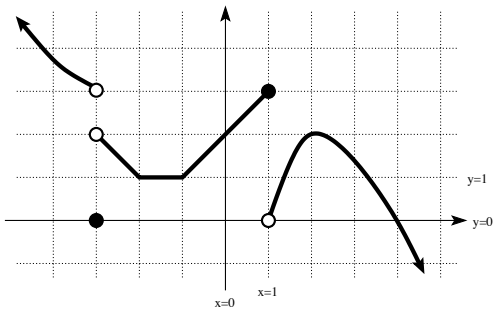


Math 1110 Name: Solutions

Quiz 2 Section (circle) 004/005

Problem 1. (7 points) Consider the function $f(x)$ graphed in the figure below.



(a) For what values c is $\lim_{x \to c^+} f(x) = 2$?

We want to find the x-coordinate for points on the graph where the right-hand limit equals 2. These are $c = -3$, $c = 0$, and $c = 2$.

Since it is difficult to see exactly what is happening in the graph near the point $(2, 2)$, another acceptable answer would be $c = -3$, $c = 0$, $c = 2$, and $c \approx 2.2$.

(b) For what values c is $\lim_{x \to c^-} f(x) = 2$?

We want to find the x-coordinate for points on the graph where the left-hand limit equals 2. These are $c = 0$ and $c = 2$.

Since it is difficult to see exactly what is happening in the graph near the point $(2, 2)$, another acceptable answer would be $c = 0$, $c = 2$, and $c \approx 2.2$.

(c) For what values c is $\lim_{x \to c} f(x) = 2$?

We want to find the x-coordinate for points on the graph where the left-hand limit and the right-hand limit both equal 2. From our above work these are $c = 0$ and $c = 2$.

Since it is difficult to see exactly what is happening in the graph near the point $(2, 2)$, another acceptable answer would be $c = 0$, $c = 2$, and $c \approx 2.2$.