Warm Up
9/29/14

CALCULATOR ACTIVE

78

Unit 1 Limits and Continuity
Unit Test

Name Julian
Date _____

Part B Short Answer Questions: Show all work for the problems below.

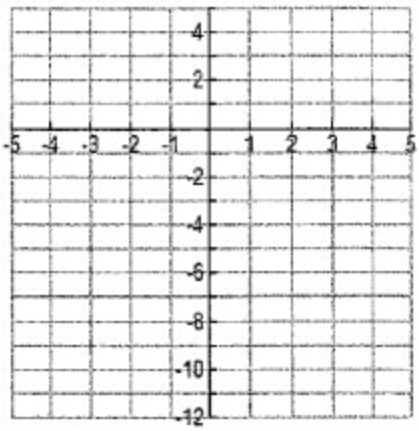
$$f(x)=\begin{cases}\dfrac{x^2-8x-20}{x+2} & x\neq -2\\ bx-3 & x=-2\end{cases}$$

A. Use the function above to answer the following questions.

a) $\lim_{x\to -2} f(x)=$

b) What value of b will make f continuous at $x = -2$?

c) Sketch a graph of f below using the value you found for b.



d) $\lim_{x\to -\infty} f(x)=$

e) If a function f is continuous at $x = c$, is it necessarily true that $\lim_{x\to c} f(x)$ must exist? Explain.