

Warm up
9/29/14

CALCULATOR ACTIVE

Unit 1 Limits and Continuity
Unit Test

Name _____
Date _____

Julian

9/29

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

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

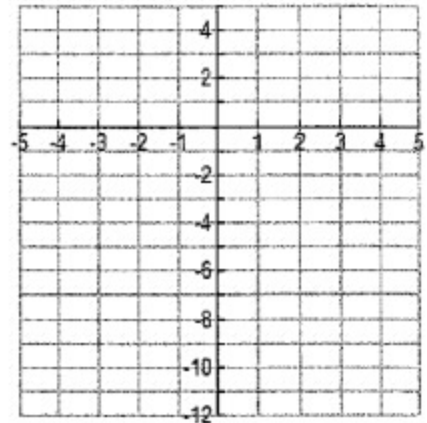
A. Use the function above to answer the following questions.

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

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



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