Math 161

Quiz2

09/12/13 30 Minutes

Name: _____

Student ID: _____

Show all work to receive full credit. Cross out all work you don't want graded. Circle your final answer.

1. (a) A function f is continuous at a number a if

 $\lim_{x \to a} f(x) = \underline{\qquad}$

(b) From the graph of f below, use the definition of continuity to determine the points where the function is not continuous, and state the type of discontinuity(jump/removable/infinite).

The following type of functions are continuous at every number in their domain : **polynomials**, **rational functions**, **root functions**, **trigonometric functions**.

2. On what intervals is each functions continuous?

(a) $h(u) = \sqrt[4]{7-u} + \sqrt{u-2}$

(b) $k(x) = 6\sin(x) + 9x^2$

3. Evaluate the following limits:

(a)
$$\lim_{x \to 3} \frac{x^2 - 7x + 12}{x^2 - 6x + 9}$$

(b)
$$\lim_{x \to \infty} \frac{12 - x^3}{x^3 - 6x + 9}$$