Math 151
Oct. 1, 2018
Quiz #2B

Show your work. Name _____ (please print)

1. g(x) is a continuous function ——————————>

x	0	1	2	3	4	5
g(x)	1	3	-1	-2	4	-3

(3) (a) g(x) = 0 at least ____ times

(b) g(x) = 2 at least ____ times

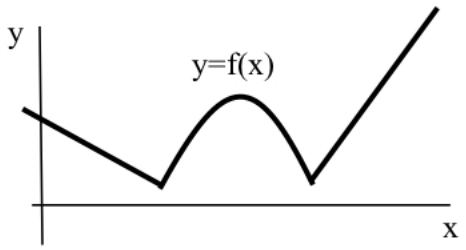
(c) g(x) = –2.5 at least ____ times

2. (a) **Define** f '(x) =

(2) (the definition)

(2) (b) What does f '(x) measure? (just give one)

3. The graph of y=f(x) is shown. ---------->



On the lower axes graph y = {slope of f(x) }

(3)

y= SLOPE of f

4. $g(x)=\begin{cases} x+A & if \quad x\le 2 \\ x^2+3 & if \quad 2<x\le 3 \\ C-x & if \quad x>3 \end{cases}$

What value of A will make g(x) continuous at x=2? A = ____

What value of C will make g(x) continuous at x=3? C = ____

(2)

5. (a) $f(x)=x^2+5x+7.$ Evaluate and simplify (no limit) $\dfrac{f(3+a)-f(3)}{a}$ = _____

(3)

6. What is the equation of the line tangent to the graph of

$f(x)=x^3-3x+4$ at the point (2, 6)? y = _____

(4)

7. $f(x)=3x^2-18x+4$. At what value of x is f '(x) = 0. x = _____

$g(x)=2x+\dfrac{18}{x}$. At what value of x is g '(x) = 0. x = _____

(2)