Math 234 BL1 - Exam 1 Review

Important Information

- You will not be allowed to use a calculator of any kind on the exam.
- You will not be allowed to use any books, notes, or any other reference.

Know how to:

1.1: Evaluate a function.
Describe the domain of a function.
Find the composition of 2 given functions.
Given $f(x)$, simplify expressions like $f(x^2-1)$ or $\frac{f(x+h)-f(x)}{h}$.
Given $f(x)$, find $g(u)$ and $h(x)$ so that $f(x) = g(h(x))$. (1.1: 51-56)

1.2: Graph simple functions and simple piecewise functions. (1.2: 13-28)
Find where 2 curves intersect.

1.3: Graph a line.
Find the equation of a line given 2 points or given a point and information about the slope.

1.5: Determine the value of a limit, if it exists, by inspecting the graph.
Use the properties of limits to evaluate a limit or determine that it does not exist.

1.6: Determine the value of a one-sided limit.
Inspect a graph to determine the continuity of a function. (Like in the notes.)
Use the definition of continuity to investigate the continuity of a function at a point. (1.6: 17-42)

2.1: Use the limit definition to calculate a derivative (something like x^2, $\sqrt{x}$, or $\frac{1}{x}$).
Inspect a graph to determine the differentiability of a function at a point. (Like in the notes.)

2.2: Understand the different notations for the derivative.
Apply the power rule to find derivatives.
Find the equation of the line tangent to $f(x)$ at a given point.

2.3: Apply the product and quotient rules to find the derivative of a function.
Understand the different notations for higher order derivatives.
Find and evaluate second derivatives.