

Math 100
Final Exam



The following questions are designed to test your understanding of the material covered in this course. Please show all work and clearly label your answers.

Student Name

First Name	Last Name	Section	Section	Section	Section

1. A function $f(x)$ is defined on the interval $[0, 10]$ and has the following properties:
- $f(0) = 0$
- $f(5) = 10$
- $f(10) = 0$
- $f(x)$ is concave up on $[0, 5]$ and concave down on $[5, 10]$.
Sketch the graph of $f(x)$ on the interval $[0, 10]$. Label the x and y axes and indicate the concavity of the function on each interval.

2. A function $f(x)$ is defined on the interval $[0, 10]$ and has the following properties:
- $f(0) = 0$
- $f(5) = 10$
- $f(10) = 0$
- $f(x)$ is concave down on $[0, 5]$ and concave up on $[5, 10]$.
Sketch the graph of $f(x)$ on the interval $[0, 10]$. Label the x and y axes and indicate the concavity of the function on each interval.