

Math 101 Final Exam Objectives

The Final Exam is worth 130 points; 30 points from Multiple Choice and 100 points from Short Answer.

Multiple Choice

There will be 15 multiple choice questions worth 2 points each. Study resources for examples include the Skills Tests for Exams 1 — 5 and the Unit 6 Review.

Short Answer Concepts There will be 17 short answer questions with varying point distributions. Concepts on the exam will include:

1. Graph a given function.
 - (a) Quadratic [Exam 3]
 - (b) Piecewise-defined [Exam 2]
 - (c) Exponential [Exam 4]
 - (d) Rational [Exam 5]
2. Identify characteristics from the graph or from the equation of various functions.
 - (a) Domain & Range.
 - (b) x - and y -intercepts.
 - (c) Zeros
 - (d) Increasing, decreasing, constant intervals.
 - (e) Maximum, minimum.
 - (f) End-behavior of a polynomial.
 - (g) Symmetry.
3. Use u -substitution to solve equations that are quadratic in form. [Exam 3 & 4]
4. Solve equations involving logarithms. [Exam 4]
5. Write an equation for a series of transformations on a basic function. [Exam 2]
6. Know the relationship between a function and its inverse. [Exam 4]
7. Write the equation of a line through two distinct points. [Exam 1]
8. Find the zeros of a function.
9. Use a sign test to solve a polynomial or rational inequality. [Exam 3 & 5]
10. Solve an application involving growth or decay. [Exam 4]
11. Find the center and radius of a circle. [Exam 1]

12. Use properties of logarithms to rewrite expressions as a series of sums/differences or as a single logarithm. [Exam 4]
13. Solve a system of equations with matrix row operations. [Take-home Unit 6]