Math Academy 1 Final Outline **Fall 2024**

The Math Academy 1 final is split up into three sections, for a total of 200 points (the same as two chapter tests). Part [A] will be given in class on the Monday before finals, and parts [B] and [C] will be given during the normal final period.

Part [A]: Fundamentals

Format: online multiple-choice

Length: 24 questions

Partner: none

Notes: none

Description: There will be one multiple-choice question for each of the 24 topics in the Math Fundamentals Guide. They will be conceptually almost identical to the examples in the guide and the examples on the practice test done in class.

Part [B]

Format: written

Length: 6 to 8 questions

Partner: none

Notes: none

Description: There will be a problem for most or all of the eight items below. See the notes or study guide for a specific example of each.

1-C ❶ Simplify an expression using properties of exponents.
1-G ❺ Apply inverses to solve an equation.
2-D ❽ Solve a logarithmic equation.
2-D ❿ Determine half-life based on decay rate or decay rate based on half-life.
3-D ❸ Factor $ax^2 + bx + c$ by grouping.
3-E ❻ Find the solutions, zeros, roots, or x-intercepts of a quadratic.
4-A ❸ Solve problems by identifying 30° right triangles or 45° right triangles.
4-C ❷ Solve a right triangle.

Scoring: Each problem (except the simplifying problem) will be graded on the following criteria:

All steps are written neatly and in order, with everything in the correct place.

Each step is a valid equation with an equals sign and a variable.

The answer is reasonable.

The answer is correct.

Part [C]

Format: online multiple-choice

Length: approximately 25 questions

Partner: You will be assigned a partner with a grade similar to yours. Pairs of partners may switch if all four partners make the request in person prior to the day of the final and all have similar grades in class.

Notes: Each person can use both sides of half of a regular (8½" x 11") sheet of paper for hand-written notes.

Description: The questions will come from anywhere in the study guide. Some questions will involve calculations, some will involve concepts and reasoning, and some will involve terminology and definitions.

Scoring: When you finish this section, you can see your score. You can then go back, make changes, and see your score again. You will be able to do this multiple times before you submit the test. Once you submit your final answers, every 8 correct questions count as 9.