

MATH 118 Statistics

Final Exam Review

Notes and Reminders:

You may use an approved calculator on *part of* this exam. Refer to the course syllabus for the official calculator policy. The calculator portion of the exam will be a maximum of 5 problems selected from the “Calculator problems” sections of the assigned homework.

A formula sheet with trigonometric identities will be provided for your reference during the exam. You received a hard copy in class, but if you lost it, you can download it from my website:
math.mercyhurst.edu/~aberardine

The exam will be held on Friday, December 11 from 1-3PM in our normal classroom.

The final exam will be cumulative; any assigned homework problem from Chapter P through Chapter 5 is “fair game” for the final exam. With that said, there are some concepts that are absolutely essential and will definitely appear on the exam. A list of these topics is on the back of this page. I also included references for where each topic is “focused on” in the textbook, but of course many of these topics pop up as one step in more complicated, seemingly-unrelated problems in other places in the textbook.

List of Vital MATH 118 Concepts

- Simplifying and evaluating algebraic expressions, including expressions with exponents and fractions (See sections P1, P2, P3, P6)
- Factoring polynomials (See sections P5, 2.3, 2.4, 2.5, 2.6)
- Solving equations, including the following types: linear, polynomial, rational, absolute value, radical, exponential, logarithmic, trigonometric (See sections P7, 2.2, 2.3, 2.4, 2.5, 2.6, 3.4, 5.5)
- Finding the equation of a line (See sections 1.4, 1.5)
- Finding the zeros (roots) of polynomial and rational functions (See sections 2.2, 2.3, 2.4, 2.5, 2.6)
- Evaluating trigonometric expressions (See sections 4.2, 4.3, 4.5, 4.7, 5.2, 5.3)
- Graphing trigonometric functions (See sections 4.5, 4.6)
- Solving inequalities, including the following types: linear, absolute value, (See sections P9, 2.7)
- Reading information from a graph, including: domain, range, x -intercepts and their multiplicities, y -intercepts, local extrema, intervals of increasing/decreasing/constant, x -axis/ y -axis/origin symmetry, evaluating function values, asymptotes (See sections 1.2, 1.3, 2.2, 2.3, 2.6)
- Identifying the domain of a function from its formula (Found in a lot of places, but formally discussed in section 1.7)
- Computing function compositions and their domains (See section 1.7)
- Properties of inverse functions (See section 1.8)
- Determining end behavior of polynomial and rational functions (See sections 2.3, 2.6)
- Evaluating and graphing exponential functions (See section 3.1)
- Evaluating and graphing logarithmic functions and simplifying logarithmic expressions (See sections 3.2, 3.3)
- Graphing angles in standard position (See sections 4.1, 4.2)
- Modeling “real world” scenarios (or simplifications of “real world” scenarios) using algebraic functions and expressions (Found in every section of the book, but focused on in sections P8, 1.10, 3.5, and 4.8)