Spring 2023 MATH 1060Q Exam 1 Suggested Practice Problems

Exam 1 will consist of a mix of short answer and multiple choice questions covering sections 1.1-1.9 and 2.1-2.2. On short answer problems, you must show all work that leads to your answer in order to earn full credit. Remember that calculators are **NOT** allowed on the exam.

You may create a **cheat sheet** to bring to the exam. You can write anything you want on the cheat sheet (formulas, definitions, problems, etc...). The cheat sheet must be handwritten by you and should be written on the front and back of one page of regular size computer/notebook paper.

Below, is a list of practice problems from your textbook. You should use these problems to help you study for the exam. In addition, you should also study problems from your text, class-notes, classwork, quizzes, and WebAssign. Most of the problems listed below are odd-numbered problems, so you will be able to find the answers in the textbook. You should make a note of any items that may be problematic and seek help from your instructor or SI leader on those problems.

Section 1.1, pages 8-9

- #9, #11 (Quadrants of the Cartesian Plane)
- #25 (Pythagorean Theorem)
- #33 (Distance and Midpoint Formulas)

Section 1.2, pages 19-20

- #8 (Solutions to Equations)
- #25, #29 (x-intercepts and y-intercepts)
- #33, #39 (Symmetry Tests)

Section 1.3, pages 31-32

- #9, #27 (Slope Formula)
- #27, #57 (Slope Intercept Form and Point Slope Form)
- #77, #79 (Parallel and Perpendicular Lines)

Section 1.4, pages 44-48

- #7, #13 (Definition of a Function)
- #21, #29 (Function Notation)
- #55 (Domain)
- #73 (Difference Quotient)

Section 1.5, pages 56-58

- #7 (Domain and Range)
- #11, #13 (Vertical Line Test)
- #21, #25 (Zeros of a Function)
- #33, #34, #38 (Increasing/Decreasing Intervals)
- #51 (Relative Maxima and Minima)
- #63 (Average Rate of Change)
- #71, #79 (Even and Odd Functions)

Section 1.6, pages 65-66

- #48 (Parent Functions)
- #37 (Piece-wise Functions)

Section 1.7, page 73

- #11, #27 (Horizontal and Vertical Shifts)
- #29, #33 (Horizontal and Vertical Stretches and Compressions)
- #13, #19, #25, #35 (Reflections)

Section 1.8, pages 81-82

- #11, #13, (Addition, Subtraction, Multiplication, Division of Functions with Domains)
- #35, #39, #47 (Function Composition with Domains)

Section 1.9, pages 90-91

- #33, #39 (One-to-One Functions and Horizontal Line Test)
- #45, #49 (Finding Inverse Functions)
- #17, #31 (Verifying Inverse Functions)

Chapter 1 Review, pages 106-108

- #49, #50 (More on Domain)
- #53 (Another Difference Quotient)

Section 2.1, page 120

- #35 (Vertex Form of a Quadratic)
- #17, #19, #21, #23 (Completing the Square to find vertex, intercepts, and axis of symmetry of a parabola)

Section 2.2, pages 132-135

- #106 (Degree of a Polynomial)
- #11, #13 (4 Types of End Behavior of Polynomials)
- #23 (Leading Term Test)
- #79, #83 (Repeated Zeros and Multiplicity)