MATH 30 - Precalculus. Review for test 3. Professor Luis Fernández

<u>Topics and skills that will be evaluated</u>

Polynomial and rational functions

- Find domain, intercepts, vertical asymptotes, horizontal asymptotes, and sketch the graph of a rational function. (Sec. 2.6.)
- Solve polynomial and rational inequalities, writing the solution as an interval or union of intervals. (Sec. 2.7.)
- Understand the definition of exponential function. Find the domain and range of an exponential function. Sketch the graph of an exponential function. (Sec. 3.1.)
- Understand the definition of logarithmic functions. Find the value of some logarithms without a calculator, directly from the definition. Find the value of logarithms with a calculator. (Sec. 3.2.)
- Change an expression from logarithmic form to exponential form and back (that is, $\log_b x = y \quad \leftrightarrow \quad b^y = x$). (Sec. 3.2.)
- Find domain, range, and graph logarithmic functions. (Sec. 3.2.)
- Properties of logarithms: product rule, quotient rule, power rule. Change of base property. (Sec. 3.3.)
- Expand logarithmic expressions. Condense logarithmic expressions. (Sec. 3.3.).
- Solve exponential equations. Solve logarithmic equations. (Sec. 3.4.)

Angles and trigonometry

- Find the value of the trigonometric functions of any angle, with the angles written IN RADIANS (Sec. 4.4).

Other materials:

- Besides the assignments I gave and the old tests that you can find in the webpage, here are some exercises from the textbook as a review.
- Sec. 2.6: 1, 3, 9–14, 57–75, odd numbered exercises.
- Sec. 2.7: 1–21 odd numbered, 43, 45, 47, 49, 53, 55, 57, 67.
- Sec. 3.1: 1, 3, 5, 13, 53.
- Sec. 3.2: 1–20, 21–41 odd numbered, 43, 44, 81–93 odd numbered.
- Sec. 3.3: 1–39, odd numbered, 43–67 odd numbered, 71–76.
- Sec. 3.4: 1, 3, 5, 7, 13, 15, 17, 19, 21, 23, 25, 31, 41, 43, 45, 49, 51, 57, 61, 69, 71, 73.