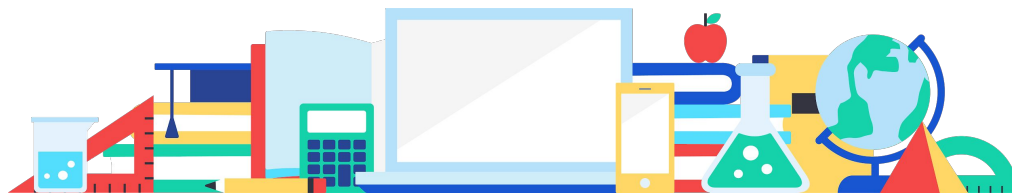# Precalculus Review Guide

Updated January 2020

Key Topics

Key Topics Covered in Pre-Calculus

- ➜ Functions & Graphing Functions
  - ◆ Linear functions
  - ◆ Quadratic functions
  - ◆ Polynomial functions
  - ◆ Domain & range
  - ◆ Composition of functions
  - ◆ Inverse functions
  - ◆ Rational & irrational functions
- ➜ Exponential & Exponential Functions
  - ◆ Exponential functions
  - ◆ Natural exponential function
  - ◆ Logarithms and logarithmic functions
  - ◆ Natural & common logarithms
  - ◆ Change of base formula
- ➜ Trigonometric functions
- ➜ Conics
  - ◆ Circles
  - ◆ Parabolas
  - ◆ Hyperbolas
  - ◆ Ellipses

- ➜ Complex numbers
  - ◆ Arithmetic with complex numbers
  - ◆ Complex conjugates
  - ◆ Polar form of complex numbers
  - ◆ The complex plane
- ➜ Probability and statistics
  - ◆ Independent vs. dependent events
  - ◆ Factorials
  - ◆ Permutations & combinations
- ➜ Systems of equations & matrices
  - ◆ Gaussian elimination
  - ◆ Matrix arithmetic
  - ◆ Determinants
  - ◆ Matrix inverses
- ➜ Introduction to series
  - ◆ Arithmetic sequences
  - ◆ Geometric sequences
  - ◆ Binomial theorem

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Pre-Calculus

Additional Resources

➔ https://www.khanacademy.org/math/precalculus
➔ http://wp.vcu.edu/precalculus/files/2013/08/Precalculus-3rd-ed.pdf
➔ http://faculty.bard.edu/bloch/precalculus_review_gray.pdf
➔ https://www.themathpage.com/aPreCalc/precalculus.htm
➔ https://math.tntech.edu/machida/MATH_GO/Precalculus_Review/
➔ https://www.ixl.com/math/precalculus
➔ https://wa01001167.schoolwires.net/cms/lib/WA01001167/Centricity/Domain/1630/Precalculus%20Book.pdf

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