MAT182 - Trigonometry with Algebra Review

Course Information
(Effective Fall 2019)

Textbook Information

Title: Precalculus A Right Triangle Approach (5th Ed)
Author: Beecher, Penna, Bittinger
Publisher: Pearson
ISBN: 9780135263815

Catalog Description: A comprehensive coverage of trigonometry and selected topics from college algebra for students intending to take calculus: measurements of angles, trigonometric functions, equations and graphs, inverse trigonometric functions, identities, polar coordinates, solutions of triangles, applications, complex numbers, DeMoivre's theorem, vectors, logarithms, exponential functions, partial fractions, conics, sequences and series. Prerequisite: MAT151. Prerequisite or corequisite: RDG100.

Textbook Coverage

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Learning Outcomes:

1. (Application Level) Apply trigonometric concepts to solve right and non-right triangles using definitions, modeling, and the appropriate laws.
2. (Application Level) Solve problems involving circles and angles.
3. (Application Level) Sketch the graphs of trigonometric functions in rectangular, polar and parametric forms and identify the period, amplitude, and shift of trigonometric functions.
4. (Application Level) Solve trigonometric equations using trigonometric identities and inverse functions.
5. (Application Level) Apply concepts of trigonometry to solve problems involving vectors.
6. (Synthesis Level) Simplify complex numbers in trigonometric form and convert between complex and polar forms.
7. (Application Level) Graph equations of conic sections.
8. (Analysis Level) Decompose a rational expression into a sum of partial fractions.
9. (Application Level) Solve and sketch logarithmic and exponential equations using appropriate properties.
10. (Comprehension Level) Distinguish the difference between arithmetic and geometric sequences and use appropriate formulas to find specific terms.
11. (Evaluation Level) Evaluate the sum of finite and infinite series.
12. (Evaluation Level) Use technology to model, investigate, solve, and/or justify solutions to the given problems.