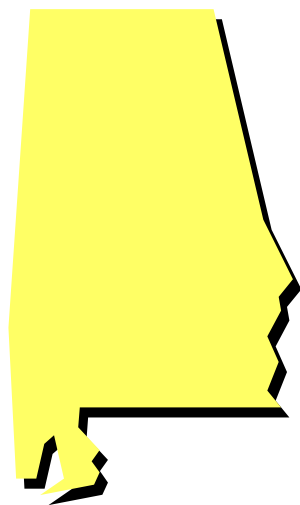
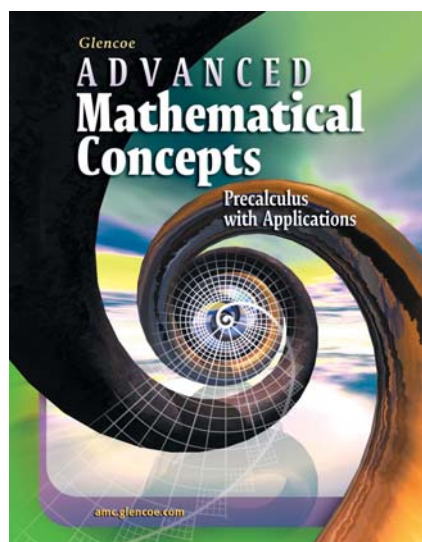


Glencoe/McGraw-Hill

Advanced Mathematical Concepts: Precalculus with Applications ©2004

ISBN# 0-07-860861-9



correlated to

**Alabama Course of Study:
Precalculus**

**GLENCOE/MCGRAW-HILL
ADVANCED MATHEMATICAL CONCEPTS:
PRECALCULUS WITH APPLICATIONS ©2004**

CORRELATED TO

**ALABAMA
COURSE OF STUDY: PRECALCULUS**

OBJECTIVES	PAGE REFERENCES
Number and Operations	
Students will:	
1. Perform the vector operations of addition, scalar multiplication, and absolute value.	
<ul style="list-style-type: none"> • Determining coincidence, parallelism, collinearity, or perpendicularity of vectors 	SE: 493–498, 505–512, 523, 543 TWE: 493–498, 505–512, 523, 543
<ul style="list-style-type: none"> • Using vectors to model real-life and mathematical situations 	SE: 487, 489, 491, 495, 501, 504, 508, 510, 513–519, 522, 525, 527–533 TWE: 487, 489, 491, 495, 501, 504, 508, 510, 513–519, 522, 525, 527–533
2. Define e using the limit forms of $\sum_{n=0}^{\infty} 1/n!$, $\lim_{n \rightarrow \infty} (1+1/n)^n$, and $\lim_{n \rightarrow 0} (1+n)^{1/n}$.	SE: 712–713 TWE: 712–713
Algebra	
3. Graph conic sections, including parabolas, hyperbolas, ellipses, circles, and degenerate conics, from second-degree equations.	
<ul style="list-style-type: none"> • Formulating equations of conic sections from their determining characteristics 	SE: 623–630, 631–641, 642–652, 653–659 TWE: 623–630, 631–641, 642–652, 653–659
4. Analyze the graphs of rational, logarithmic, exponential, trigonometric, and piecewise-defined functions by determining the domain and range; identifying any vertical, horizontal, or oblique asymptotes; and classifying the function as increasing or decreasing, continuous or discontinuous, and noting the type of discontinuity if one exists.	
<ul style="list-style-type: none"> • Approximating rates of change using the difference quotient 	SE: 45–48, 159–164, 180–185, 704–708, 718–722, 956–958 TWE: 45–48, 159–164, 180–185, 704–708, 718–722, 956–958

**GLENCOE/MCGRAW-HILL
ADVANCED MATHEMATICAL CONCEPTS:
PRECALCULUS WITH APPLICATIONS ©2004**

CORRELATED TO

**ALABAMA
COURSE OF STUDY: PRECALCULUS**

OBJECTIVES	PAGE REFERENCES
5. Analyze the effects of parameter changes on the graphs of trigonometric, logarithmic, and exponential functions.	
<ul style="list-style-type: none"> • Determining the amplitude, period, phase shift, domain, and range of trigonometric functions and their inverses 	SE: 359–366, 368–376, 378–386, 395–403, 405, 412 TWE: 359–366, 368–376, 378–386, 395–403, 405, 412
6. Apply the laws of logarithms to simplify expressions and to solve equations using common logarithms, natural logarithms, and logarithms with other bases.	SE: 718–725, 726–732, 733–737, 740–748 TWE: 718–725, 726–732, 733–737, 740–748
7. Solve trigonometric equations and inequalities using sum, difference, and half- and double-angle identities.	
<ul style="list-style-type: none"> • Verifying trigonometric identities 	SE: 421–430, 431–436, 437–444, 448–455 TWE: 421–430, 431–436, 437–444, 448–455
8. Use parametric equations to represent real-life and mathematical situations.	SE: 520–525, 526, 527–534 TWE: 520–525, 526, 527–534
9. Solve applied problems involving sequences with recurrence relations.	
<ul style="list-style-type: none"> • Determining characteristics of arithmetic and geometric sequences and series, including those defined with recurrence relations, first terms, common differences or ratios, n^{th} terms, limits, or statements of convergence or divergence 	SE: 759–765, 766–773, 774–783, 786–791, 794–800, 806–814, 815–821 TWE: 759–765, 766–773, 774–783, 786–791, 794–800, 806–814, 815–821
<ul style="list-style-type: none"> • Expanding binomials raised to a whole number power using the Binomial Theorem 	SE: 801–805, 875–877 TWE: 801–805, 875–877

**GLENCOE/MCGRAW-HILL
 ADVANCED MATHEMATICAL CONCEPTS:
 PRECALCULUS WITH APPLICATIONS ©2004**

CORRELATED TO

**ALABAMA
 COURSE OF STUDY: PRECALCULUS**

OBJECTIVES	PAGE REFERENCES
10. Find limits of functions at specific values and at infinity numerically, algebraically, and graphically.	
<ul style="list-style-type: none"> • Applying limits in problems involving convergence and divergence 	SE: 774–782, 786–793 TWE: 774–782, 786–793
Geometry	
11. Convert coordinates, equations, and complex numbers in Cartesian form to polar form and from polar form to Cartesian form.	
<ul style="list-style-type: none"> • Graphing simple polar equations in the polar coordinate plane 	SE: 553–560, 561–567 TWE: 553–560, 561–567
<ul style="list-style-type: none"> • Graphing polar coordinates and complex numbers 	SE: 553–560, 586–591 TWE: 553–560, 586–591
Data Analysis and Probability	
12. Determine the equation of a curve of best fit from a set of data by using exponential, quadratic, or logarithmic functions.	SE: 38–44, 51, 61, 258–264, 270, 573 TWE: 38–44, 51, 61, 258–264, 270, 573

GLENCOE/McGraw-Hill
South Central Region
6510 Jimmy Carter Boulevard
Norcross, GA 30071
770/613-0281
800/731-2365