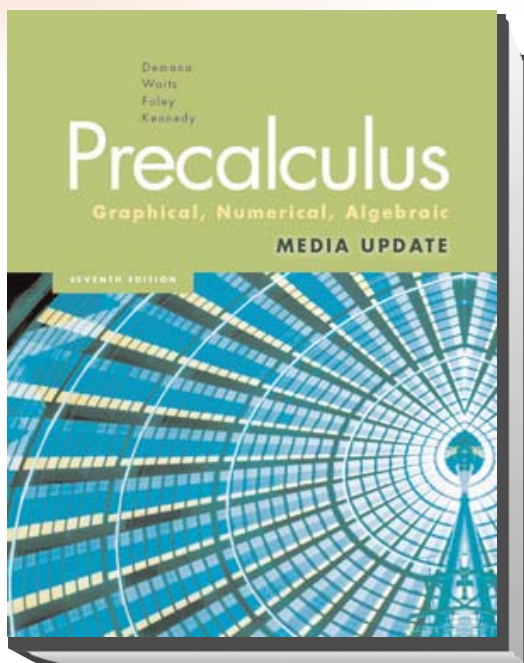


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Precalculus:

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C O R R E L A T E D T O

North Carolina Essential Standards Draft for Pre-Calculus

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Correlated to:

North Carolina Essential Standards Draft dated 3/26/09 for Pre-Calculus

North Carolina Essential Standards Draft for Pre-Calculus	Precalculus: Graphical, Numerical, Algebraic © 2010
Pre-Calculus Essential Standards (3/26/09)	
Pre-Calculus	
A.D.1 Use functions (polynomial, power, rational, exponential, logarithmic, logistic, piecewise-defined, and greatest integer) to model and solve problems; justify results.	
A.D.1.a Solve using graphs and algebraic properties.	SE/TE: 44-51, 56-58, 74-76, 152-154, 159-161, 166, 176, 181, 184-185, 226, 320-322
A.D.1.b Interpret the constants, coefficients, and bases in the context of the problem.	SE/TE: 283, 288 (#56), 346 (# 76), 347 (#94)
A.D.1.c Understand the relationship between the exponential and logarithmic functions.	SE/TE: 300-305, 308, 310, 322
A.D.1.d Use the laws of exponents to prove the basic properties of a logarithm.	SE/TE: 310, 333
A.D.2 Create and use calculator-generated models of linear, polynomial, exponential, trigonometric, power, logistic, and logarithmic functions of bivariate data to solve problems.	
A.D.2.a Interpret the constants, coefficients, and bases in the context of the data.	SE/TE: 138, 172-173, 283, 434-435
A.D.2.b Check models for goodness-of-fit; use the most appropriate model to draw conclusions and make predictions.	SE/TE: 157, 159, 163 (#50), 174, 181, 194-195, 293
A.D.2.c Evaluate sets of data considering the source and the design of the study.	SE/TE: 285, Additional content at www.awl.com/demana
A.D.2.d Recognize when arguments based on data confuse correlation with causation.	SE/TE: 174, Additional content at www.awl.com/demana
A.D.3 Use graphs and algebraic properties to solve problems involving trigonometric and inverse trigonometric functions; justify results.	
A.D.3.a Define trigonometric functions on the unit circle.	SE/TE: 377-383, 384-386, 396-400
A.D.3.b Create and identify transformations with respect to period, amplitude, and vertical and horizontal shifts.	SE/TE: 386-393
A.D.3.c Develop and use the law of sines and the law of cosines.	SE/TE: 479-486, 487-489, 494-495
A.D.3.d Use sum, difference, double angle, and half angle identities to find exact values and establish other identities.	SE/TE: 444-452, 454-461
A.D.4 Use polar equations to model and solve problems.	
A.D.4.a Solve using graphs and algebraic properties.	SE/TE: 542-549
A.D.4.b Interpret the constants and coefficients in the context of the problem.	SE/TE: 680-681
A.D.5 Investigate the behavior of recursively-defined functions.	
A.D.5.a Find the sum of a finite sequence.	SE/TE: 742-746, 749-751
A.D.5.b Find the sum of an infinite sequence.	SE/TE: 746-750
A.D.5.c Determine whether a given series converges or diverges.	SE/TE: 748-750S
A.D.5.d Translate between recursive and explicit representations.	SE/TE: 732, 734-736, 739

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A.D.6 Explore the limit of a function graphically, numerically, and algebraically.	SE/TE: 189, 203-204, 237-240, 242, 244-245, 733-734, 739, 805-806, 813-825, 827
G.D.1 Transform relations in two dimensions; describe the results algebraically and geometrically.	SE/TE: 138-149, 177, 179, 182-183, 239, 280-283, 286-287, 306, 308, 386-393, 636-637, 647-648, 659-660
G.D.2 Use major features of the parabola, circle, ellipse, and hyperbola to model and solve real world mathematical situations.	
G.D.2.a Solve using tables, graphs, and algebraic properties.	SE/TE: 641-642, 653-654, 663-664, 673-674
G.D.2.b Interpret the constants and coefficients in the context of the problem.	SE/TE: 635, 637, 639, 641, 645, 647, 653, 654, 659, 663
S.D.1 Summarize and analyze univariate data to solve problems.	
S.D.1.a Apply and compare methods of data collection.	Please see additional content at www.awl.com/demana
S.D.1.b Apply statistical principles and methods in sample surveys.	SE/TE: 774-779, 783
S.D.1.c Determine measures of central tendency and spread.	SE/TE: 771-774, 783
S.D.1.d Recognize, define, and use the normal distribution curve.	SE/TE: 780-781, 784
S.D.1.e Interpret graphical displays of univariate data.	SE/TE: 760-767
S.D.1.f Compare distributions of univariate data.	SE/TE: 763, 767, 768, 769
S.D.2 Use theoretical and experimental probability to model and solve problems.	
S.D.2.a Use addition and multiplication principles.	SE/TE: 719-720, 722, 728-730
S.D.2.b Calculate and apply permutations and combinations.	SE/TE: 700-707, 708-710
S.D.2.c Create and use simulations for probability models.	Please see additional content at www.awl.com/demana
S.D.2.d Find expected values and determine fairness.	SE/TE: 731
S.D.2.e Identify and use discrete random variables to solve problems.	SE/TE: 719-722, 726-728
S.D.2.f Apply the Binomial Theorem.	SE/TE: 714-717