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Algebra and Trigonometry
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C O R R E L A T E D T O
North Carolina Essential Standards Draft for
Advanced Functions and Modeling

PEARSON

TEACH & LEARN • ASSESS & INFORM • DEVELOP & LEAD

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Correlated to:

North Carolina Essential Standards Draft dated 3/26/09 for Advanced Functions and Modeling

North Carolina Essential Standards Draft dated 3/26/09 for Advanced Functions and Modeling	Algebra and Trigonometry © 2009 (Sullivan)
Advanced Functions and Modeling Essential Standards (3/26/09)	
Advanced Functions and Modeling	
A.D.1 Use a diverse array of functions (logarithmic, piecewise-defined, power, trigonometric, recursively-defined, and polynomial) to model and solve problems.	
A.D.1.a Determine when it is appropriate to use each function.	SE/TE: 242-251, 324-343, 375-388, 437-449, 540-549, 550-559, 560-573, 574-580
A.D.1.b Explain the significance each function has with respect to the data or problem situation being modeled.	SE/TE: 242-251, 324-343, 375-388, 437-449, 540-549, 550-559, 560-573, 574-580
A.D.2 Use multiple representations to analyze trigonometric functions.	
A.D.2.a Define trigonometric functions on the unit circle.	SE/TE: 550-559
A.D.2.b Create and identify transformations with respect to period, amplitude, and vertical and horizontal shifts.	SE/TE: 581-584, 586, 589-591
A.D.2.c Develop and use the law of sines and the law of cosines.	SE/TE: 675-685, 686-690
S.D.1 Create and use calculator-generated models of linear, polynomial, exponential, trigonometric, power, and logarithmic functions of bivariate data to solve problems.	
S.D.1.a Interpret the constants, coefficients, and bases in the context of the data.	SE/TE: 287-292, 305-313, 324-343, 475-486, 487-493
S.D.1.b Check models for goodness-of-fit; use the most appropriate model to draw conclusions and make predictions.	SE/TE: 287-292, 305-313, 324-343, 475-486, 487-493
S.D.1.c Evaluate sets of data considering the source and the design of the study.	
S.D.1.d Recognize when arguments based on data confuse correlation with causation.	For content that meets this standard, please visit www.prenhall.com/sullivan Statistics: Informed Decisions Using Data, Third Edition: Lesson 4.1
S.D.2 Summarize and analyze univariate data to solve problems.	
S.D.2.a Apply and compare methods of data collection.	For content that meets this standard, please visit www.prenhall.com/sullivan Statistics: Informed Decisions Using Data, Third Edition: Lessons 1.2-1.6
S.D.2.b Apply statistical principles and methods in sample surveys.	For content that meets this standard, please visit www.prenhall.com/sullivan Statistics: Informed Decisions Using Data, Third Edition: Lessons 1.3-1.5
S.D.2.c Determine measures of central tendency and spread.	For content that meets this standard, please visit www.prenhall.com/sullivan Statistics: Informed Decisions Using Data, Third Edition: Lessons 3.1-3.2

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<p>S.D.2.d Recognize, define, and use the normal distribution curve.</p>	<p>For content that meets this standard, please visit www.prenhall.com/sullivan Statistics: Informed Decisions Using Data, Third Edition: Lessons 7.1-7.3</p>
<p>S.D.2.e Interpret graphical displays of univariate data.</p>	<p>SE/TE: 487-491, 585-586</p>
<p>S.D.2.f Compare distributions of univariate data.</p>	<p>For content that meets this standard, please visit www.prenhall.com/sullivan Statistics: Informed Decisions Using Data, Third Edition: Chapter 2, Lesson 3.4-3.5</p>
<p>S.D.3 Use theoretical and experimental probability to model and solve problems.</p>	<p>For content that meets this standard, please visit www.prenhall.com/sullivan Statistics: Informed Decisions Using Data, Third Edition: Lesson 5.1</p>
<p>S.D.3.a Use addition and multiplication principles.</p>	<p>SE/TE: 990, 992, 995-998, 999-1000</p>
<p>S.D.3.b Calculate and apply permutations and combinations.</p>	<p>SE/TE: 979-987, 999-1000</p>
<p>S.D.3.c Create and use simulations for probability models.</p>	<p>SE/TE: 1002</p>
<p>S.D.3.d Find expected values and determine fairness.</p>	<p>SE/TE: 988-997, 999-1000</p>
<p>S.D.3.e Identify and use discrete random variables to solve problems.</p>	<p>Related material: SE/TE: 988-997</p>
<p>S.D.3.f Apply the Binomial Theorem.</p>	<p>SE/TE: 961-966, 969</p>