

	Date	Test Score	Proficiency
<i>Pretest (Unit Test I)</i>			

		A	B	TEACH BACK	C	D	H	Lesson Test	Test Date
1 Introduction to Trigonometry									
2 Reciprocal Trigonometric Ratios									
3 Interpreting the Trigonometry Tables									
4 Use the Trigonometric Table to Solve for the Unknown									
5 Using a Calculator and Arc Functions									
6 Angles of Elevation and Depression									
7 Angles $< 0^\circ$, $> 360^\circ$, and Reference Angles									
8 Cofunctions; Negative Angle Relationships									

	Date	Test Score	Proficiency
<i>Posttest (Unit Test I)</i>			

LESSON OBJECTIVES

<p>Lesson 1 Introduction to Trigonometry</p> <p>PC.1.a Define the trigonometric ratios sine, cosine, and tangent</p> <p>Lesson 2 Reciprocal Trigonometric Ratios</p> <p>PC.2.a Show the inverse relationship between sine and cosecant</p> <p>PC.2.b Show the inverse relationship between cosine and secant</p> <p>PC.2.c Show the inverse relationship between tangent and cotangent</p> <p>PC.2.d Convert any ratio from fraction form to rounded decimal form</p> <p>PC.2.e Use the Pythagorean theorem to find the length of the missing side of a right triangle</p> <p>Lesson 3 Interpreting the Trigonometry Tables</p> <p>PC.3.a Find trigonometric ratios for angles that are listed in a table</p> <p>PC.3.b Find the angle for trigonometric ratios that are listed in a table</p> <p>PC.3.c Express tangent in terms of sine and cosine</p> <p>PC.3.d Express cotangent in terms of sine and cosine</p> <p>Lesson 4 Use the Trig Table to Solve for the Unknown</p> <p>PC.4.a Find the measure of the missing side of a right triangle using trigonometric ratios</p>	<p>Lesson 5 Using a Calculator and Arc Functions</p> <p>PC.5.a Use a calculator to find the trigonometric ratios for any angle</p> <p>PC.5.b Use a calculator to find the angle associated with a trigonometric ratio</p> <p>PC.5.c Convert Degrees, Minutes, and Seconds (DMS) to Decimal Degrees (DD) using unit multipliers or conversion factors</p> <p>PC.5.d Convert DD to DMS using unit multipliers or conversion factors</p> <p>PC.5.e State the inverse relationship between trigonometric functions in general and their arc functions</p> <p>Lesson 6 Angles of Elevation and Depression</p> <p>PC.6.a Define the angle of elevation and angle of depression</p> <p>PC.6.b Model a word problem involving trigonometry with a drawing</p> <p>PC.6.c Apply knowledge of trigonometry to solve word problems</p>
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Lesson 7 Angles $< 0^\circ$, $> 360^\circ$, and Reference Angles

- PC.7.a Define initial side, terminal side, and coterminal
- PC.7.b Explain positive and negative rotation with respect to angles
- PC.7.c Identify the quadrant in which the terminal side of an angle lies

Lesson 8 Cofunctions; Negative Angle Relationships

- PC.8.a Describe the relationship between cofunctions and complementary angles
- PC.8.b Find the value of a trigonometric function of negative theta when given the trigonometric function of theta

		Date			Test Score			Proficiency	
<i>Pretest (Unit Test II)</i>									
		A	B	TEACH BACK	C	D	H	Lesson Test	Test Date
9	Proving Trigonometric Identities								
10	Verifying Trig Expressions and Identities								
11	Sum and Difference Identities								
12	The Double-Angle and Half-Angle Identities								
13	Law of Sines								
14	Law of Cosines								

		Date			Test Score			Proficiency	
<i>Posttest (Unit Test II)</i>									

LESSON OBJECTIVES
Lesson 9 Proving Trigonometric Identities

PC.9.a Prove trigonometric identities

Lesson 10 Verifying Trig Expressions and Identities

 PC.10.a Evaluate trigonometric expressions containing angle measures with reference angles of 0° , 30° , 45° , 60° , and 90°

PC.10.b Express evaluated trigonometric expressions in simplest exact form

Lesson 11 Sum and Difference Identities

PC.11.a Apply the sum and difference identities to calculate sine, cosine, and tangent ratios for angles

Lesson 12 The Double-Angle and Half-Angle Identities

PC.12.a Apply the double and half-angle identities to calculate sine, cosine, and tangent ratios for angles

Lesson 13 Law of Sines

PC.13.a Apply the law of sines to find missing parts of a triangle

PC.13.b Explain why the law of sines can sometimes give misleading answers

PC.13.c Evaluate the level of reliability of the law of sines in given situations

PC.13.d Explain a strategy for guarding against errors caused by the ambiguity in the law of sines

Lesson 14 Law of Cosines

PC.14.a Apply the law of cosines to find missing parts of a triangle

		Date			Test Score			Proficiency	
<i>Pretest (Unit Test III)</i>									
		A	B	TEACH BACK	C	D	H	Lesson Test	Test Date
15	Radian Measure								
16	Polar Coordinates; Rectangular Coordinates								
17	Polar Equations and Polar Graphs								
18	Vectors								
19	Functions, Relations, Domain, and Range								
20	Composite Functions								
21	Logarithms								
22	Natural Exponential and Logarithm Functions								

		Date			Test Score			Proficiency	
<i>Posttest (Unit Test III)</i>									

LESSON OBJECTIVES
Lesson 15 Radian Measure

- PC.15.a Convert angle measures from degrees to radians
- PC.15.b Convert angle measures from radians to degrees

Lesson 16 Polar Coordinates; Rectangular Coordinates

- PC.16.a Plot a point using polar coordinates on a rectangular coordinate system
- PC.16.b Convert polar coordinates to rectangular coordinates
- PC.16.c Plot a point using polar coordinates on a rectangular coordinate system when the distance is negative
- PC.16.d Convert rectangular coordinates to polar coordinates
- PC.16.e Present a model that makes intuitive sense of negative angle measures and negative distances in polar coordinates
- PC.16.f Plot points on a polar coordinate system

Lesson 17 Polar Equations and Polar Graphs

- PC.17.a Rewrite a rectangular equation as a polar equation
- PC.17.b Rewrite a polar equation as a rectangular equation

Lesson 18 Vectors

- PC.18.a Convert polar and rectangular coordinates to vector form
- PC.18.b Convert vectors to rectangular or polar form
- PC.18.c Add two vectors to find a resultant vector
- PC.18.d Subtract one initial vector from a resultant vector to find the other initial vector
- PC.18.e Model vector addition and subtraction visually

Lesson 19 Functions, Relations, Domain, and Range

- PC.19.a Define the term function
- PC.19.b Model the concept of a function
- PC.19.c State whether a given relation is a function, based on formula or graph
- PC.19.d Calculate the value of a function with various inputs
- PC.19.e State the domain and range of a function

Lesson 20 Composite Functions

- PC.20.a Evaluate the sum or difference of two functions
- PC.20.b Evaluate the product or quotient of two functions
- PC.20.c Evaluate a composite function

Lesson 21 Logarithms

- PC.21.a Rewrite an exponential expression as a logarithmic expression
- PC.21.b Rewrite a logarithmic expression as an exponential expression
- PC.21.c Give the base 10 log powers of 10
- PC.21.d Read logs from a log table
- PC.21.e Find the log of numbers not in the log table, using interpolation
- PC.21.f Define the terms characteristic and mantissa
- PC.21.g Explain the meaning of an antilog
- PC.21.h Find the antilog of a number
- PC.21.i Solve logarithmic equations

Lesson 22 Natural Exponential and Logarithm Functions

- PC.22.a Define natural log as log base e
- PC.22.b State the natural logs of zero and one
- PC.22.c Explain the inverse relationship between e^x and $\ln(x)$
- PC.22.d State the rules for $\ln(xy)$, $\ln\left(\frac{x}{y}\right)$, and $\ln(x^a)$
- PC.22.e Simplify expressions using the natural log or exponential function
- PC.22.f Solve equations using natural log or exponential functions

	Date	Test Score	Proficiency
<i>Pretest (Unit Test IV)</i>			

			TEACH BACK				Lesson Test	Test Date
23 Graphing Sine and Cosine Equations								
24 Graphing the Cosecant and Secant								
25 Graphing the Tangent and Cotangent								
26 Arithmetic Sequences and Series								
27 Geometric Sequences and Series								
28 Equations with Radicals and Absolute Value								
29 Inequalities with Absolute Value and Radicals								
30 Limits								

	Date	Test Score	Proficiency
<i>Posttest (Unit Test IV)</i>			

LESSON OBJECTIVES
Lesson 23 Graphing Sine and Cosine Equations

- PC.23.a Graph the function $y = \sin(x)$
- PC.23.b Graph the function $y = \cos(x)$
- PC.23.c Define the terms period, shift, translation, and amplitude
- PC.23.d Graph variations of the basic sine and cosine graphs
- PC.23.e Determine the equation of a sine or cosine graph

Lesson 24 Graphing the Cosecant and Secant

- PC.24.a Graph the function $y = \csc(x)$
- PC.24.b Graph the function $y = \sec(x)$
- PC.24.c Graph variations of the basic cosecant and secant graphs
- PC.24.d Define the term asymptote

Lesson 25 Graphing the Tangent and Cotangent

- PC.25.a Graph the function $y = \tan(x)$
- PC.25.b Graph the function $y = \cot(x)$
- PC.25.c Graph variations of the basic tangent and cotangent graphs

Lesson 26 Arithmetic Sequences and Series

- PC.26.a Define the terms sequence, arithmetic sequence, finite sequence, infinite sequence, and series
- PC.26.b Determine the common difference in a given arithmetic sequence
- PC.26.c Use the formula to find the n th term of a sequence
- PC.26.d Identify the parts of sigma notation
- PC.26.e State two formulas for finding the sum of an arithmetic series: one with d , and the other without
- PC.26.f Compute the sum of an arithmetic series

Lesson 27 Geometric Sequences and Series

- PC.27.a Define a geometric sequence
- PC.27.b Define a common ratio
- PC.27.c Give the formula for finding the n th term in a geometric sequence
- PC.27.d Find the n th term in a geometric sequence
- PC.27.e Give the formula for finding the sum of a geometric series
- PC.27.f Compute the sum of a geometric series

Lesson 28 Equations with Radicals and Absolute Value

- PC.28.a Solve equations containing absolute value expressions
- PC.28.b Solve equations containing radical expressions
- PC.28.c Identify equations with no solution
- PC.28.d Identify situations that would result in extraneous solutions for equations containing radical or absolute value expressions

Lesson 29 Inequalities with Absolute Value and Radicals

- PC.29.a Solve inequalities containing absolute value expressions
- PC.29.b Graph one-dimensional inequalities containing absolute value expressions
- PC.29.c Solve inequalities containing radical expressions
- PC.29.d Graph one-dimensional inequalities containing radical expressions

Lesson 30 Limits

- PC.30.a Give an operational definition of a limit
- PC.30.b Identify the parts of an expression containing limit notation
- PC.30.c Evaluate limits of functions shown on graphs
- PC.30.d Evaluate limits algebraically
- PC.30.e Give operational definitions of right- and left-handed limits