ISD 846 Breckenridge Public School Curriculum Map---September 2005		
Curriculum / Course / Grade: **Trigonometry-Unit 1-Trig Functions**		
Teacher's Name: Goldade		
Standard(s): I. Apply skills of mathematical representation, communication and reasoning throughout the remaining three contest areas II A. Use real numbers, represented in a variety of ways, to quantify information and to solve real-world and mathematical problems II B. Appropriately use calculators and other technologies to solve algebraic, geometric, probabilistic and statistical problems. V B. Apply basic theorems of plane geometry, right triangle trigonometry, coordinate geometry, and a variety of visualization tools to solve real-world and mathematical problems V C. Use the interconnectedness of geometry, algebra, and measurement to explore real-world and mathematical problems VIII. Understand the properties of the standard trigonometric functions and apply them to real-world and mathematical problems, especially geometric problems. Develop increased mastery of geometric proof methodology.		
Skills / Benchmarks: 1. Know the special right triangles. 2. Know the Pythagorean Theorem and common triples. 3. Know measurement of rotation. 4. Know the six trigonometric functions defined for an angle in a right triangle. 5. Approximate trig values and inverse (arc) values with a calculator. 6. Given the coordinates of a point on the terminal side of an angle in standard position in the xy-plane, find the values of the trigonometric functions. 7. Know and be able to use the definitions of the inverse trigonometric functions and related methods to solve problems such as find cos(x) and tan(x) given the value of sin x and the quadrant containing the terminal side. 8. Know how to solve right triangle real-world problems with six basic trigonometric functions	Assessment: 1.Test 2. Quizzes 3. Projects 4. THTs	Content: Trigonometry, relation, graph, domain, range, function, periodic, Pythagorean Theorem, triples, degrees, terminal & standard positions, acute, obtuse, right, and reflex angles, coterminal and reference angles, quadrant, theta, sine, cosine, tangent, secant, cosecant, cotangent, transcendental numbers, arcsine, arccosine, arctangent, arc secant, arc cosecant, arc cotangent, verbal problems.
Essential Questions: How tall is the flag pole?		
Activities: Find the height of a flagpole.		

Resources used: Trigonometry textbook by Paul Foerster
Methods of Delivery:
Curricular Collaboration:
Notes:

ISD 846 Breckenridge Public School Curriculum Map ---October 2005		
Curriculum / Course / Grade: **Trigonometry-Unit 2-Applications of Trig Functions**		
Teacher's Name: Goldade		
Standard(s): I. Apply skills of mathematical representation, communication and reasoning throughout the remaining three contest areas II A. Use real numbers, represented in a variety of ways, to quantify information and to solve real-world and mathematical problems II B. Appropriately use calculators and other technologies to solve algebraic, geometric, probabilistic and statistical problems. V B. Apply basic theorems of plane geometry, right triangle trigonometry, coordinate geometry, and a variety of visualization tools to solve real-world and mathematical problems V C. Use the interconnectedness of geometry, algebra, and measurement to explore real-world and mathematical problems VIII. Understand the properties of the standard trigonometric functions and apply them to real-world and mathematical problems, especially geometric problems. Develop increased mastery of geometric proof methodology.		
Skills / Benchmarks: 1. Convert between degrees and radian measures. 2. Graph the functions of the form Asin(Bt +C)+D, Acos(Bt + C)+D, and Atan(Bt + C)+D and know the meaning of the terms frequency, amplitude, phase shift and period. 3. Find all the solutions of a trigonometric equation on various intervals. 4. Plot the graphs of sin & cos. 5. Know the coordinates of the critical points of sin & cos graphs. 6. Know the coordinates of the major angles on a unit circle. 7. Know how to simplify radical expressions. 8. Know how to graph the 6 trig functions in both radians and degrees. 9. Know how to graph the 6 inverse trig functions in both radians and	Assessment: 1.Test 2. Quizzes 3. Projects 4. THTs	Content: Sinusoid, periodic, graph, cycle, period, amplitude, phase displacement, vertical displacement, translation, frequency, radian, degrees, pi, exact, approximate, circular function, unit circle, radical form, asymptote, principal value, critical points, generalize.

degrees. 10. Solve sinusoidal functions for missing values. 11. Know how to solve sinusoidal function real-world problems.		
Essential Questions: Which day(s) of the year is the sunrise times the same in Breckenridge?		
Activities: Biorhythms project and the Radian Protractor.		
Resources used: Trigonometry textbook by Paul Foerster		
Methods of Delivery:		
Curricular Collaboration:		
Notes:		

ISD 846 Breckenridge Public School Curriculum Map ---November 2005		
Curriculum / Course / Grade: **Trigonometry-Unit 3-properties of Trig Functions**		
Teacher's Name: Goldade		
Standard(s): I. Apply skills of mathematical representation, communication and reasoning throughout the remaining three contest areas II A. Use real numbers, represented in a variety of ways, to quantify information and to solve real-world and mathematical problems II B. Appropriately use calculators and other technologies to solve algebraic, geometric, probabilistic and statistical problems. V B. Apply basic theorems of plane geometry, right triangle trigonometry, coordinate geometry, and a variety of visualization tools to solve real-world and mathematical problems V C. Use the interconnectedness of geometry, algebra, and measurement to explore real-world and mathematical problems VIII. Understand the properties of the standard trigonometric functions and apply them to real-world and mathematical problems, especially geometric problems. Develop increased mastery of geometric proof methodology.		
Skills / Benchmarks: 1. Simplify trigonometric expressions using identities and verify simple trigonometric identities including $\sin^2 x + \cos^2 x = 1$, sum, difference, double angle and half-angle formulas for sine and cosine. 2. Know how to express a trig function as another trig function. 3. Know the negative argument of all 6 trig functions. 4. Know how to transform a linear combination of sin & cos to a cosine with a phase displacement. 5. Verify the properties by calculator graphics.	Assessment: 1.Test 2. Quizzes 3. Projects 4. THTs	Content: Prove, properties, transform, reciprocal and quotient properties, Pythagorean properties, identities, odd & even functions, factoring, rationalize, complementary, circular functions, composite, cofunction, double argument, generalize, sum & product properties, linear combination, domain, range, interval notation,

6. Know interval notation for radian & degrees.		
Essential Questions: What is the exact value of the Sin18°?		
Activities: Plimpton 322		
Resources used:		
Methods of Delivery:		
Curricular Collaboration:		
Notes:		

ISD 846 Breckenridge Public School Curriculum Map --- December 2005		
Curriculum / Course / Grade: **Trigonometry-Unit 5-Triangle Problems**		
Teacher's Name: Goldade		
Standard(s): I. Apply skills of mathematical representation, communication and reasoning throughout the remaining three contest areas II A. Use real numbers, represented in a variety of ways, to quantify information and to solve real-world and mathematical problems II B. Appropriately use calculators and other technologies to solve algebraic, geometric, probabilistic and statistical problems. V B. Apply basic theorems of plane geometry, right triangle trigonometry, coordinate geometry, and a variety of visualization tools to solve real-world and mathematical problems V C. Use the interconnectedness of geometry, algebra, and measurement to explore real-world and mathematical problems VIII. Understand the properties of the standard trigonometric functions and apply them to real-world and mathematical problems, especially geometric problems. Develop increased mastery of geometric proof methodology.		
Skills / Benchmarks: 1. Find unknown measures of sides & angles of a right triangle given LL, HL, LA, and HA 2. Find unknown measures of sides & angles of any triangle given SSS, SAS, ASA, AAS and SSA. 3. Know how to find the area of any triangle given SSS, SAS, ASA, AAS and SSA. 4. Know how to make accurate triangle drawings with compass & straight-edge and the GSP. 5. Use directed line segments (vectors) to find the sum and differences. 6. Solve applied problems about triangles using the law of sines including the ambiguous case.	Assessment: 1.Test 2. Quizzes 3. Projects 4. THTs	Content: Right triangle, legs, hypotenuse, adjacent, SohCahToa, Pythagorean Theorem, quadratic formula, simplify, area, radicals, vectors, magnitude, direction, compass, reference angle, bearing.

7. Solve applied problems about triangles using the law of cosines.		
Essential Questions: How far away is the horizon along the Earth's curved surface?		
Activities: Use a GPS to find the area of large triangle outside.		
Resources used:		
Methods of Delivery:		
Curricular Collaboration:		
Notes:		

ISD 846 Breckenridge Public School Curriculum Map --- January 2006		
Curriculum / Course / Grade:		
Teacher's Name:		
Standard(s):		
Skills / Benchmarks:	Assessment:	Content:
Essential Questions:		
Activities:		
Resources used:		
Methods of Delivery:		
Curricular Collaboration:		
Notes:		

ISD 846 Breckenridge Public School Curriculum Map ---February 2006		
Curriculum / Course / Grade:		
Teacher's Name:		
Standard(s):		
Skills / Benchmarks:	Assessment:	Content:
Essential Questions:		
Activities:		
Resources used:		
Methods of Delivery:		
Curricular Collaboration:		
Notes:		

ISD 846 Breckenridge Public School Curriculum Map --- March 2006		
Curriculum / Course / Grade:		
Teacher's Name:		
Standard(s):		
Skills / Benchmarks:	Assessment:	Content:
Essential Questions:		
Activities:		
Resources used:		
Methods of Delivery:		

Curricular Collaboration:
Notes:

ISD 846 Breckenridge Public School Curriculum Map ---April 2006		
Curriculum / Course / Grade:		
Teacher's Name:		
Standard(s):		
Skills / Benchmarks:	Assessment:	Content:
Essential Questions:		
Activities:		
Resources used:		
Methods of Delivery:		
Curricular Collaboration:		
Notes:		

ISD 846 Breckenridge Public School Curriculum Map --- May 2006		
Curriculum / Course / Grade:		
Teacher's Name:		
Standard(s):		
Skills / Benchmarks:	Assessment:	Content:
Essential Questions:		
Activities:		
Resources used:		
Methods of Delivery:		
Curricular Collaboration:		
Notes:		