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*Mr. George Pennell*

*USCMP Functions/Statistics/Trigonometry*

*Glencoe Advanced Mathematical Concepts*

FCAHS



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| Block/Quarter | Pacing Guide/Scope and SequenceFor Trigonometry using UCSMP FST and Glencoe Advanced Mathematical Concepts |
| Week 1 | Lesson 5.1: Perform conversions of angle measures to include degrees, radians, gradients, and revolutions. Perform conversions of degree/minute/seconds to decimal degrees and vice versa.Lesson 5.2: Determine arc length and sector area when central angle is given in degrees or radians. Applications of sector area and arc length.Lesson 5.3: Use trig. ratios to find sides or angles in a right triangle. Relate the slope of a line to the tangent function. Given two sides and the included angle, find the area using trig function. |
| Week 2 | Lesson 5.4: Represent trig functions in the coordinate plane using the unit circle. Give domain and range for the trig functions. Determine the sign of the trig functions in each quadrant. Define tangent in terms of sine and cosine.Lesson 5.5: Know 30-60-90 and 45-45-90 relationships. Find exact values of trig functions for multiples of 30°, 45°, 60°.Lesson 5.6: Sketch the rectangular graphs for sine, cosine, and tangent. Identify the periods of each trig function. Lesson 5.7: State and apply properties and theorems for sine, cosine, and tangent. |
| Week 3 | Lesson 5.7: State and apply properties and theorems for sine, cosine, and tangent.Lesson 5.8: Derive and apply the Law of Cosines for non-right triangles given SSS or SAS conditions.Lesson 5.9: Derive and apply the Law of Sines. Discuss the ambiguous case. |
| Week 4 | Lesson 6.1: Identify the amplitude, period, and frequency associated with the scale change of sine or cosine. Graph transformation images of circular functions.Lesson 6.2: Identify the phase shift and vertical shift associated with the translation of circular functions. Graph transformation images of circular functions.Lesson 6.3: Identify the amplitude, period, frequency, phase shift, and vertical shift associated with a composite of scale changes and translations. Graph the transformation due to a linear change. Lesson 6.4: Apply transformations of circular functions to model real life phenomena. |
| Week 5 | Lesson 6.5: Evaluate inverse trig functions. Graph or identify graphs of inverse functions. Know domain and range of inverse trig functions.Lesson 6.6: Find general solutions for trig equations.Lesson 6.7: Evaluate reciprocal trig functions. Graph or identify graphs of reciprocal trig functions. State and apply properties of reciprocal trig functions. |
| Week 6 | Lesson 11.5: State and apply the angle addition identities to find exact values.Lesson 11.6: State and apply the double and half-angle identities.Lesson 13.1: Verify trig identities. |
| Week 7 | Lesson 13.1: Verify trig identities.Lesson 13.3: Convert polar coordinate to rectangular coordinates and vice versa. Graph polar equations and points.Lesson 13.5: Know terminology associated with complex numbers. Represent the sum of complex numbers geometrically.Lesson 13.6: Perform multiplication and division of complex numbers using Argand diagram and trigonometric form. Describe composite of transformations that take place perform the above operations.Lesson 13.7: Use DeMoivre’s Theorem to find powers and roots of complex numbers. Represent operations on a polar graph. |
| Week 8 | Glencoe Text and supplemental material8.1: Find equal, parallel and opposite vectors. Add, subtract, and find scalar multiples of vectors geometrically. Find the horizontal and vertical components of a vector when given magnitude and direction and vice versa.8.5: Find the dot product. Use the dot product to find the angle between two vectors acting at a point. Use trigonometry and properties of parallelograms to solve problems involving forces and navigation. |
| Week 9 | Review and final test. |

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| Block/Quarter | Syllabus for TrigonometryUCSMP Functions, Statistics and Trigonometry |
| Week 1 | Lesson 5.1: 1-18, p. 272 (Angle Measures and unit conversions)Lesson 5.2: 1-20,pp. 276-278 (Arc Length and Sector Area)Lesson 5.3: 1-18, pp. 283-284 (Basic Trig Ratios)Study guideTest |
| Week 2 | Lesson 5.4: 1-20, p.290Lesson 5.5: 1-17,20-21, pp. 296-297Teacher Worksheet on 30°-60°-90° and 45°-45°-90° triangle relationshipsTeacher Worksheet on exact trig values for angles that are multiples of 30°, 45°, 60°Lesson 5.6:1-13, p. 302Practice TestTest on 5.4-5.6 |
| Week 3 | Lesson 5.7:1-14, 19-20 23-26, pp. 308-309 (Trig Identities) Lesson 5.8: 2, 5-14, p. 312-313 (Law of Cosines)Lesson 5.9: 3-7, 10-12, 16, 17, pp. 318-319Worksheet on LOC and LOSPractice TestTest |
| Week 4 | Lesson 6.1: 2-3,7,8, pp. 344-345.Lesson 6.2: 2,4-8, p. 350Lesson 6.3: Teacher made worksheetLesson 6.4: 4-8, p. 363, 21, p. 376 and teacher made worksheetPractice TestTest |
| Week 5 | Lesson 6.5: 3-15, p. 368-369Teacher made worksheet on inverse operationsLesson 6.6:1-9, 15-23,p. 374 Lesson 6.7:1-15, p. 380Study guideTest |
| Week 6 | Lesson 11.5: 3-12, 17, pp.692-693Lesson 11.6: 6-11, 13-14, 18-20, pp. 697-698Lesson 13.1: Verify Trig Identities WS |
| Week 7 | Lesson 13.1: Worksheet (43 problems)TestLesson 13.3: 5-16, p. 794Lesson 13.54-5,7-11, pp. 806-807Lesson 13.6: 1-15, pp. 814-815Lesson 13.7: 1-11, p. 821Study guideTest |
| Week 8 | Glencoe Text and supplemental material8.1: 5-8, 10, 12-13,35,36,40, 41,44,pp. 490-4928.5: teacher made worksheet |
| Week 9 | Study guideSemester final |