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*Mr. George Pennell*

*Glencoe Advanced Mathematical Concepts*

FCAHS



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| Block/Quarter | Pacing Guide/Scope and Sequence for Precalculus using Glencoe Advanced Mathematical Concepts |
| Week 1 | Lesson 1.1: Differentiate between relation and function. Determine the domain and range for polynomial, square root and rational functions.Lesson 1.2: Evaluate and write composite functions. Determine domain for composite. Decompose a composite functionLesson 1.3: Graph linear equations. Write equation given two pointsLesson 1.4: Write equations of lines to include parallel and perpendicularLesson 1.6: Mathematical modeling with linear regression |
| Week 2 | Lesson 3.1: Use algebra to determine if a graph has symmetry. Determine even or odd functions.Lesson 3.2: Perform transformations and composites of transformations on parent functions.Lesson 3.3/4.7: Solve non-linear inequalities to include absolute value, quadratic, square root, rational and cubic functionsLesson 1.7: Graph Piece-wise functions and determine domain and range |
| Week 3 | Lesson 3.4: Determine inverses of relations and functionsLesson 3.6: Optimization using critical points and extrema.Optimization projectLesson 3.7: Determine vertical, horizontal and slant asymptotes for rational functions.Lesson 4.6: Solve rational inequalities and decompose fractions |
| Week 4 | Lesson 4.1: Determine roots of polynomial equations.Lesson 4.3: Apply the Factor and Remainder Theorems.Lesson 4.4: Identify all possible rational roots. Use Descartes’ Rule of Signs to determine possible combinations of positive real, negative real and imaginary solutions.Lesson 4.7: Solve radical equations and inequalitiesLesson 4.8: Model real world data with polynomial functions |
| Week 5 | Lesson 11.1: Properties of exponent, evaluate and simplify exponential expressions containing rational exponents, solve exponential equationsLesson 11.2/11.4: Convert from exponential to logarithmic and vice versa. Simplify logarithmic expressions without a calculator. Solve logarithmic equations.Lesson 11.3: Solve exponential growth and decay problems and compounded interest problemsLesson 11.7: Model real-world data with logarithms/exponentials  |
| Week 6 | Lesson 12.1: Find terms for arithmetic sequences , determine constant difference, find arithmetic mean and find the sum of n terms for an arithmetic series.Lesson 12.2: Find the nth term of a geometric sequence and geometric means. Find the sum of n terms of a geometric seriesLesson 12.3; Find the limit of the terms of infinite geometric sequence. Find the sum of an infinite geometric series. Write a repeating decimal as a fraction using infinite geometric seriesLesson 12.4: Determine whether a series is convergent of divergent.Lesson 12.5: Use sigma notation to represent a sum. |
| Week 7 | Lesson 12.6/13.6: Use the Binomial Theorem to expand binomials. Compute binomial probabilities.Lesson 13.1: Solve problems using the Basic Counting Principal. Distinguish between dependent and independent events. Solve problems involving permutations or combinations.Lesson 13.3: Find the probability of an event. Find the odds for the success and failure of an event |
| Week 8 | Lesson 14.1; Draw, analyze, and use bar graphs and histograms. Organize data into a frequency distribution table.Lesson 14.2: Find the mean, median and mode of a set of data. Find the measures of central tendency organized in a stem and leaf plot of a frequency distribution tableLesson 14.3: Find the interquartile range, the semi-interquartile range, mean deviation and standard deviation of a set of data |
| Week 9 | Semester ReviewSemester Exam |

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| Block/Quarter | Precalculus SyllabusGlencoe Advanced Mathematical Concepts |
| Week 1 | Lesson 1.1: 48-51, p. 11 Teacher worksheetLesson 1.2: 11-27, pp. 17-28Lesson 1.3: 12-23, 33, 36, 37, p. 24Lesson 1.4: evens 12-23, p. 30Lesson 1.6: 4-11, pp. 41-43Test |
| Week 2 | Lesson 3.1: 6-36, 38, 41, pp. 134-135Lesson 3.213-27, p. 143.Lesson 3.3/4.7: 20, 22, 24, 25, 28, 29, 31 33-38, p. 150 29-31, p. 255Lesson 1.7: 16, 19, 20, p. 49 Teacher WorksheetTest |
| Week 3 | Lesson 3.4: 25-34, p. 156Lesson 3.6: Teacher made worksheetOptimization projectLesson 3.7: 14-34, pp. 186-189 Teacher made worksheetLesson 4*.*6: 5-7, 23-25, pp. 247-248. Teacher-made worksheetTest |
| Week 4 | Lesson 4.1: 31, 35, 38, p. 210.Lesson 4.3: 20-25, 29-34, pp. 226-227.Lesson 4.4: Teacher made worksheetLesson 4.7: 20-28, p. 255Lesson 4.8: 8-14, p. 262Test |
| Week 5 | Lesson 11.1: 13-18, 36-67, pp. 700-701Lesson 11.2/11.4: 20-52, p. 723 Teacher made worksheetLesson 11.3: Teacher made worksheetLesson 11.7: 10-18, pp. 745-746 Test |
| Week 6 | Lesson 12.1: 9-49, 42, 56-57, pp. 763-765Lesson 12.2: 16-40, 43, 44, 46, 47, 49, pp. 771-773Lesson 12.3; 14-22, 26,27, 29, 31-40, 42, 47-49, pp. 781-782Lesson 12.4: 5-6, 13-19, p. 791TestLesson 12.5: 4-12, 14-40, pp. 797-798 |
| Week 7 | Lesson 12.6/13.6: 9-11, 16-32, p. 804 13-33, pp. 878-879Lesson 13.1: 5-21, 40-48, pp. 843-844.Lesson 13.3: 13-35, 37-39, pp. 856-857Test |
| Week 8 | Lesson 14.1; 7-10, pp. 893-894Lesson 14.2: 17-24, p. 904Lesson 14.3: 9-16, p. 915Test |
| Week 9 | Complete study guideFinal Exam/Post Test |