

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Consumer Math

Consumer Math Lesson 01 - Review of Basic Computation Skills

Math 12 - Consumer Math Lesson 01 - Review of Basic Computation Skills

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
G. Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (08-10)
04. Demonstrate fluency in computations using real numbers. (09)

Consumer Math Lesson 02 - Computing Work Wages

Math 12 - Consumer Math Lesson 02 - Computing Work Wages

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
G. Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (08-10)
04. Demonstrate fluency in computations using real numbers. (09)

Consumer Math Lesson 03 – Commission

Math 12 - Consumer Math Lesson 03 - Commission

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
G. Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions. (08-10)
04. Demonstrate fluency in computations using real numbers. (09)

Consumer Math Lesson 04 - Computing Net Pay

Math 12 - Consumer Math Lesson 04 - Computing Net Pay

Standard Benchmark and Indicator
S04. Patterns, Functions and Algebra
C. Use recursive functions to model and solve problems; e.g., home mortgages, annuities. (11-12)
01. Identify and describe problem situations involving an iterative process that can be represented as a recursive function; e.g., compound interest. (11)

Consumer Math Lesson 05 - Checking and Savings Accounts

Math 12 - Consumer Math Lesson 05 - Checking and Savings Accounts

Standard Benchmark and Indicator
S04. Patterns, Functions and Algebra
C. Use recursive functions to model and solve problems; e.g., home mortgages, annuities. (11-12)
01. Identify and describe problem situations involving an iterative process that

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can be represented as a recursive function; e.g., compound interest. (11)

Consumer Math Lesson 06 - Budgets and Circle Graphs

Math 12 - Consumer Math Lesson 06 - Budgets and Circle Graphs

Standard Benchmark and Indicator
S02. Measurement
B. Apply various measurement scales to describe phenomena and solve problems. (11-12)
02. Use radian and degree angle measures to solve problems and perform conversions as needed. (11)

Consumer Math Lesson 07 - Sales Tax, Credit, and Loans

Math 12 - Consumer Math Lesson 07 - Sales Tax, Credit, and Loans

Standard Benchmark and Indicator
S04. Patterns, Functions and Algebra
C. Use recursive functions to model and solve problems; e.g., home mortgages, annuities. (11-12)
01. Identify and describe problem situations involving an iterative process that can be represented as a recursive function; e.g., compound interest. (11)
02. Translate a recursive function into a closed form expression or formula for the n th term to solve a problem situation involving an iterative process; e.g., find the value of an annuity after 7 years. (11)

Consumer Math Lesson 08 - Comparative Shopping, Discount, and Consumer Price Index

Math 12 - Consumer Math Lesson 08 - Comparative Shopping, Discount, and Consumer Price Index

Standard Benchmark and Indicator
S05. Data Analysis and Probability
B. Use descriptive statistics to analyze and summarize data, including measures of center, dispersion, correlation and variability. (11-12)
08. Analyze and interpret univariate and bivariate data to identify patterns, note trends, draw conclusions, and make predictions. (11)

Consumer Math Lesson 09 - Midterm Exam

Consumer Math Lesson 10 - Scale Drawing, Area, Perimeter, and Volume

Math 12 - Consumer Math Lesson 10 - Scale Drawing, Area, Perimeter, and Volume

Standard Benchmark and Indicator

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A. Explain differences among accuracy, precision and error, and describe how each of those can affect solutions in measurement situations. (11-12)
01. Determine the number of significant digits in a measurement. (11)
D. Solve problem situations involving derived measurements; e.g., density, acceleration. (11-12)
05. Solve real-world problems involving area, surface area, volume and density to a specified degree of precision. (11)

Consumer Math Lesson 11 - Combinations and Permutations

Math 12 - Consumer Math Lesson 11 - Combinations and Permutations

Standard Benchmark and Indicator
S05. Data Analysis and Probability
D. Connect statistical techniques to applications in workplace and consumer situations. (11-12)
06. Use theoretical or experimental probability, including simulations, to determine probabilities in real-world problem situations involving uncertainty, such as mutually exclusive events, complementary events and conditional probability. (12)

Consumer Math Lesson 12 – Matrices

Math 12 - Consumer Math Lesson 12 - Matrices

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
D. Demonstrate fluency in operations with real numbers, vectors and matrices, using mental computation or paper and pencil calculations for simple cases and technology for more complicated cases. (11-12)
04. Use matrices to represent given information in a problem situation. (11)
06. Compute sums, differences and products of matrices using paper and pencil calculations for simple cases, and technology for more complicated cases. (11)
S04. Patterns, Functions and Algebra
D. Apply algebraic methods to represent and generalize problem situations involving vectors and matrices. (11-12)
07. Model and solve problems with matrices and vectors. (11)

Consumer Math Lesson 13 - Car Loans and Insurance

Math 12 - Consumer Math Lesson 13 - Car Loans and Insurance

Standard Benchmark and Indicator
06. Compute sums, differences and products of matrices using paper and pencil
S04. Patterns, Functions and Algebra

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S04. Patterns, Functions and Algebra
D. Apply algebraic methods to represent and generalize problem situations involving vectors and matrices. (11-12)
07. Model and solve problems with matrices and vectors. (11)

Consumer Math Lesson 14 - Measures of Central Tendency, Graphs, and Probability

Math 12 - Consumer Math Lesson 14 - Measures of Central Tendency, Graphs, and Probability

Standard Benchmark and Indicator
S05. Data Analysis and Probability
B. Use descriptive statistics to analyze and summarize data, including measures of center, dispersion, correlation and variability. (11-12)
03. Describe how a linear transformation of univariate data affects range, mean, mode, and median. (11)
H. Use counting techniques, such as permutations and combinations, to determine the total number of options and possible outcomes. (08-10)
07. Use counting techniques and the Fundamental Counting principle to determine the total number of possible outcomes for mathematical situations. (09)
J. Compute probabilities of compound events, independent events, and simple dependent events. (08-10)
09. Identify situations involving independent and dependent events, and explain differences between, and common misconceptions about probabilities associated with those events. (09)
K. Make predictions based on theoretical probabilities and experimental results. (08-10)
10. Use theoretical and experimental probability, including simulations or random numbers, to estimate probabilities and to solve problems dealing with uncertainty; e.g., compound events, independent events, simple dependent events. (09)

Consumer Math Lesson 15 - Financing a Home

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not commutative. (11)
D. Demonstrate fluency in operations with real numbers, vectors and matrices, using mental computation or paper and pencil calculations for simple cases and technology for more complicated cases. (11-12)
06. Compute sums, differences and products of matrices using paper and pencil calculations for simple cases, and technology for more complicated cases. (11)
S02. Measurement
C. Estimate and compute areas and volume in increasingly complex problem situations. (11-12)
04. Calculate distances, areas, surface areas and volumes of composite three-dimensional objects to a specified number of significant digits. (11)
D. Solve problem situations involving derived measurements; e.g., density, acceleration. (11-12)
01. Solve problems involving derived measurements; e.g., acceleration and pressure. (12)
05. Solve real-world problems involving area, surface area, volume and density to a specified degree of precision. (11)
S03. Geometry and Spatial Sense
B. Represent transformations within a coordinate system using vectors and matrices. (11-12)
05. Identify, sketch and classify the cross sections of three-dimensional objects. (11)

Consumer Math Lesson 16 - Costs of a Trip

Math 12 - Consumer Math Lesson 16 - Costs of a Trip

Standard Benchmark and Indicator
S02. Measurement
A. Explain differences among accuracy, precision and error, and describe how each of those can affect solutions in measurement situations. (11-12)
01. Determine the number of significant digits in a measurement. (11)
C. Estimate and compute areas and volume in increasingly complex problem situations. (11-12)
04. Calculate distances, areas, surface areas and volumes of composite three-dimensional objects to a specified number of significant digits. (11)

Consumer Math Lesson 17 – Statistics

Math 12 - Consumer Math Lesson 17 - Statistics

Standard Benchmark and Indicator
B. Use descriptive statistics to analyze and summarize data, including measures of center, dispersion, correlation and variability. (11-12)
03. Describe the shape and find all summary statistics for a set of univariate data, and describe how a linear transformation affects shape, center and spread. (12)
08. Analyze and interpret univariate and bivariate data to identify patterns, note trends, draw conclusions, and make predictions. (11)
C. Design and perform a statistical experiment, simulation or study; collect and

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C. Design and perform a statistical experiment, simulation or study; collect and interpret data; and use descriptive statistics to communicate and support predictions and conclusions. (11-12)

09. Evaluate validity of results of a study based on characteristics of the study design, including sampling method, summary statistics and data analysis techniques. (11)

Consumer Math Lesson 18 - Final Exam