

GK MATH: CONTENT FOR TEST PREP

60 points per certificate

7/12
#1-009-003

General Objective

The purpose of this component is to increase the knowledge and skills of participants in the mathematics competencies and skills. Upon successful completion of the component, all participants will have a basic knowledge of curriculum, and material covered on the teacher certification test.

Specific Objectives

Upon successful completion of this course, participants will be able to:

- Compare the relative value of real numbers (e.g., integers, fractions, decimals, percents, irrational numbers, and numbers expressed in exponential or scientific notation).
- Solve real-world problems involving addition, subtraction, multiplication, and division of rational numbers (e.g., whole numbers, integers, decimals, percents, and fractions including mixed numbers).
- Apply basic number theory concepts including the use of primes, composites, factors, and multiples in solving problems.
- Apply the order of operations with or without grouping symbols.
- Solve real-world problems involving length, width, mass, perimeter, area, capacity, and volume.
- Solve real-world problems involving rated measures (e.g., miles per hour, meters per second, cost per item, and cost per unit).
- Solve real-world problems involving scaled drawings (e.g., maps, blueprints, and models).
- Solve real-world problems involving the change of units of measures of length, weight, mass, capacity, and time.
- Solve real-world problems involving estimates of measures including length, weight, mass, temperature, time, money, perimeter, area and volume.
- Choose the correct reading, to a specified degree of accuracy, using instruments (e.g., scales, rulers, thermometers, measuring cups, protractors, and gauges).
- Identify and/or classify simple two- and three-dimensional figures according to their properties.
- Solve real-world and mathematical problems involving ratio, proportion, similarity, congruence, and the Pythagorean relationship.
- Identify the location of ordered pairs of integers in all four quadrants of a coordinate system (graph) and use the coordinate system to apply the concepts of slope and distance to solve problems.
- Identify real-world examples that represent geometric concepts including perpendicularity, parallelism, tangency, symmetry, and transformations (e.g., flips, slides, and turns).
- Analyze and generalize patterns including arithmetic and geometric sequences.
- Interpret algebraic expressions using words, symbols, variables, tables, and graphs.
- Solve equations and inequalities graphically or algebraically. (11, 1, 3)
- Determine whether a number or ordered pair is among the solutions of given equations or inequalities.
- Analyze data and solve problems using data presented in histograms, bar graphs, circle graphs, pictographs, tables, and charts.
- Identify how the presentation of data can lead to different or inappropriate interpretations.
- Calculate range, mean, median, and mode(s) from sets of data and interpret the meaning of the measures of central tendency (i.e. mean, median, and mode) and dispersion (i.e. range and standard deviation).
- Identify how the measures of central tendency (i.e. mean, median, or mode) can lead to different interpretations.
- Calculate the probability of a specified outcome.
- Solve and interpret real-world problems involving probability using counting procedures, tables, tree diagrams, and the concepts of permutations and combination.

Description of Activities

Activities held under this component will be designed to accomplish the specific objectives outlined above. They may include, but will not be limited to, such things as lectures, discussions, demonstrations, observations, online activities and hands-on activities.

Evaluation of Participants

Evaluation of the specific objectives will be determined by the activity leader or designee through analysis of student performance data affected by training activities, portfolios maintained by the training participant, documented observation by administrators, rubrics developed for special area curriculum, teacher-provided test results/grade books, or curriculum alignment data.

Evaluation of Activity

An online evaluation for this activity will be conducted through the Santa Rosa Professional Growth System (PGS).