MATH: CONTENT FOR TEST PREP
Grades 5-9
60 points per certificate

7/12
#1-009-001

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:

- Identify the domain and range of specified functions.
- Identify properties (e.g., commutative, associative, distributive).
- Compute the mean, median, mode, and range of a set of data.
- Determine whether the mean, median, or mode is the most appropriate measure of central tendency in a given situation.
- Interpret information (e.g., correlation, regression, distributions) from various graphic representations.
- Identify appropriate graphical representations for a given data set.
- Determine probabilities of dependent or independent events.
- Predict odds of a given outcome.
- Identify an appropriate sample space to determine the probability of a given event.
- Make predictions that are based on experimental or theoretical probabilities.
- Apply counting principles to solve real-world problems.
- Identify angles or pairs of angles as adjacent, complementary, supplementary, vertical, corresponding, alternate interior, alternate exterior, obtuse, acute, or right.
- Identify lines and planes as perpendicular, intersecting, skew, or parallel.
- Identify triangles using the lengths of their sides or the measures of their angles.
- Determine the sum of the measures of the interior angles and the sum of the measures of the exterior angles of convex polygons.
- Determine the measures of the specified interior or exterior angles of a triangle or a regular polygon.
- Apply the inequality relationships among the angles and sides of a triangle.
- Use the SAS, ASA, and SSS postulates to show pairs of triangles congruent, including the case of overlapping triangles.
- Solve real-world problems involving similar or congruent figures.
- Solve real-world problems applying the Pythagorean theorem and its converse.
- Solve real-world problems by applying the 30˚–60˚–90˚ or 45˚–45˚–90˚ triangle relationships.
- Solve right triangle problems by applying tangent, sine, or cosine ratios.
- Apply the distance formula.
- Apply the formula for midpoint.
- Apply the inequality relationships among the angles and sides of a triangle.
- Determine appropriate units and instruments for measuring a given quantity in a real-world context.
- Estimate measurements, including length, area, volume, weight, time, temperature, and money.
- Make conversions within the metric or customary systems in a real-world context.
- Apply the formulas for determining the circumferences and areas of circles in a real-world context.
- Find the perimeter or area of figures composed of parallelograms, triangles, circles, and trapezoids in a real-world context.
- Apply the formulas for surface area and volume to right prisms, regular pyramids, right circular cylinders, cones, and spheres in a real-world context.
- Determine how a change in such dimensions as length, width, height, or radius affects other measurements such as perimeter, area, surface area, and volume.
- Solve problems involving direct or indirect measurement.

- Solve real-world problems using money, rates, distance, time, temperature, and angle measures.
- Interpret scale drawings such as those based on number lines and maps to solve real-world problems.

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).