



Gulfport School District

HIGH SCHOOL PACING GUIDE

GEOMETRY

| QTR | COMPETENCY/OBJECTIVES |
|------------------------------|--|
| NUMBER AND OPERATIONS | |
| | 1. Compute and determine the reasonableness of a result in mathematical and real-world situations with and without technology. |
| 2 | a. Apply problem-solving skills to solve and verify the solutions for unknown measures in similar polygons. (DOK 2) |
| 1 | b. Given exact irrational solutions, determine the best rational estimation. (DOK 2) |
| 2 | c. Solve real-world or application problems that involve square roots and the Pythagorean Theorem. (DOK 3) |
| ALGEBRA | |
| | 2. Understand, relations, functions, and patterns. Analyze change using various geometric properties. |
| 1 | a. Represent data from geometric and real-world contexts with expressions, formulas, tables, charts, graphs, relations, and functions. (DOK 2) |
| 2 | b. Recognize and write the equation of a circle in standard form $(x - h)^2 + (y - k)^2 = r^2$ and identify the center and radius. (DOK 2) |
| 1 | c. Use slope to analyze and write equations for parallel and perpendicular lines. (DOK 2) |
| 1 | d. Apply the Midpoint and Distance Formulas to solve application problems involving the coordinate plane. (DOK 2) |
| 2 | e. Determine the effects of rigid (translations, rotations, and reflections) and non-rigid (dilations) motions and compositions when performed on objects on the coordinate plane. (DOK 2) |
| GEOMETRY | |
| | 3. Investigate, apply, and prove properties and theorems from postulates and definitions related to angles, lines, circles, polygons, and two- and three-dimensional figures. Explore applications of patterns and transformational geometry. |
| 1 | a. Use inductive reasoning to make conjectures and deductive reasoning to make valid conclusions. (DOK 3) |
| 1 | b. Develop and evaluate mathematical arguments and proofs to include paragraph, two-column, and flow chart forms. (DOK 3) |
| 1 | c. Identify, classify, and apply angle relationships formed by parallel lines cut by transversals. (DOK 2) |
| 2 | d. Use the properties of altitudes, medians, angle bisectors, and perpendicular bisectors of triangles to solve problems. (DOK 2) |



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GEOMETRY

| QTR | COMPETENCY/OBJECTIVES |
|--------------------------------------|--|
| GEOMETRY (continued) | |
| | 3. Investigate, apply, and prove properties and theorems from postulates and definitions related to angles, lines, circles, polygons, and two- and three-dimensional figures. Explore applications of patterns and transformational geometry. |
| 1 | e. Classify triangles and apply postulates and theorems to test for triangle congruence. (DOK 2) |
| 2 | e. Classify triangles and apply postulates and theorems to test for triangle inequality and similarity. (DOK 2) |
| 2 | f. Determine and justify if a given shape could be tessellated. (DOK 2) |
| 2 | g. Describe and draw cross-sections of prisms, cylinders, pyramids, and cones. (DOK 1) |
| 2 | h. Graph a vector and determine the magnitude and direction of a given vector. (DOK 2) |
| 2 | i. Given the pre-image or image, find figures obtained by applying reflections, translations, rotations, and dilations; describe and justify the method used. (DOK 2) |
| MEASUREMENT | |
| | 4. Select and apply various strategies, tools, and formulas to calculate length, surface area, volume, and angle measurements. |
| 2 | a. Use the properties of circles using arc, angle, and segment relationships to find missing measures. (DOK 2) |
| 2 | b. Solve real-world applications and mathematical problems to find missing measurements in right triangles by applying special right triangle relationships, geometric means, or trigonometric functions. (DOK 2) |
| 2 | c. Solve real-world and mathematical problems involving the lateral area, surface area and volume of three-dimensional figures, including prisms, cylinders, cones, pyramids, and spheres. (DOK 2) |
| 2 | d. Explain and use the properties of 45-45-90 and 30-60-90 triangles. (DOK 2) |
| 2 | e. Apply the relationships of sine, cosine, and tangent to problems involving right triangles. (DOK 2) |
| DATA ANALYSIS and PROBABILITY | |
| | 5. Represent, analyze and make inferences based on data with and without the use of technology. |
| 2 | a. Apply multiple strategies and representations, including area models, to solve probability problems. (DOK 2) |