The topics below are covered in St. Mary's Ryken Honors Geometry curriculum.

For preparation or review, the following sites provide an array of instructional materials to help ready your child for the SMR Math Validation Test:

- https://www.khanacademy.org/math
- https://www.ixl.com/math/

Please contact the Dean of Academics, Mr. Brad Chamberlain with any questions or concerns at brad.chamberlain@smrhs.org or 301-373-4188.

2021 Geometry Validation Test Topics

- Identify points, lines, planes, segments, rays and angles
- Use the distance and midpoint formulas
- Measure and classify angles and angle relationships
- Inductive and deductive reasoning
- If-then statements; converses
- Special pairs of angles resulting from transversals and perpendicular lines
- Properties of parallel lines
- Proving lines are parallel
- Angles of a triangle
- Angles of a polygon
- Congruent Figures
- Methods of Proving triangles are congruent
- Using congruent triangles
- Isosceles triangle theorems
- Medians, Altitudes and perpendicular bisectors
- Quadrilaterals
- Properties of parallelograms
- Prove quadrilaterals are parallelograms
- Theorems involving parallel lines
- Indirect proofs
- Ratios and proportions
- Properties of polygons
- Similar polygons
- Postulates and theorems for similar triangles
- Proportional lengths
- Similarity in right triangles
- Pythagorean theorem and its converse
- Special right triangles
- Trig ratios-sine, cosine, tangent, secant, cosecant and cotangent
- Applications of right triangle trigonometry
- Tangents and secants
- Arcs, central angles and chords
- Inscribed and other angles
- Circles and lengths of segments
- Areas of rectangles, parallelograms, triangles, trapezoids, regular polygons and rhombuses

- Circumference and area of circles
- Arc length and area of a sector
- Area and volume of solids: prisms, pyramids, cones and spheres
- Slope of parallel and perpendicular lines