

Geometry Standards

January, February and March Topics (May appear on any test for any month.)

I. Points, Lines, Planes and Angles

- a) points, lines, planes
- b) naming lines, segments, rays, finding midpoint, finding distance
- c) naming and finding measures of angles
- d) postulates and theorems relating points, lines and planes
- e) use the terms collinear, coplanar, intersection

II. Deductive Reasoning

- a) if-then statements, converses, inverses, contrapositives
- b) special pairs of angles – vertical, complementary, supplementary
- c) perpendicular lines

III. Parallel Lines and Planes

- a) definitions, skew lines
- b) properties of parallel lines
- c) proving lines parallel
- d) theorems involving parallel lines
- e) angles of a triangle
- f) angles of a polygon, number of diagonals

IV. Congruent Triangles

- a) proving triangles congruent
- b) using congruent triangles (CPCTC)
- c) the isosceles triangle theorems
- d) medians, altitudes, and perpendicular bisectors

V. Quadrilaterals

- a) properties of parallelograms
- b) ways to prove that quadrilaterals are parallelograms
- c) theorems involving parallel lines
- d) special parallelograms
- e) trapezoids
- f) kites

VI. Inequalities in Geometry

- a) indirect proofs
- b) inequalities for one triangle
- c) inequalities for two triangles

VII. Similar Polygons

- a) ratio and proportion
- b) properties of proportion
- c) similar polygons
- d) proving triangles similar
- e) proportional lengths

VIII. Right Triangles

- a) similarity in right triangles (geometric mean)
- b) the Pythagorean Theorem
- c) converse of the Pythagorean Theorem
- d) special right triangles
- e) sine, cosine and trig ratios
- f) applications of right triangle trig

February and March Topics (May appear only on February or March Tests.)

I. Circles

- a) basic terms
- b) tangents
- c) arcs and central angles
- d) arcs and chords
- e) inscribed angles
- f) angles with vertex in the circle and outside the circle
- g) circles and lengths of segments

II. Constructions and Loci

- a) perpendiculars and parallels
- b) concurrent lines
- c) the meaning of locus, locus problems, locus and construction

III. Areas of Plane Figures

- a) areas of rectangles, parallelograms, triangles, rhombuses, trapezoids, kites, regular polygons, equilateral triangles, squares
- b) circumferences and areas of circles
- c) arc lengths and sectors of circles
- d) ratios of areas

March Topics (May appear on March tests only.)

I. Lateral Area, Total Area and Volume of Solids

- a) Prisms
- b) Pyramids
- c) Cylinders
- d) Cones
- e) Spheres
- f) Areas and volumes of similar solids