

GEOMETRY POWER STANDARDS

- Students are able to apply inductive reasoning to form conjectures and deductive reasoning to prove conjectures.
- Students know and are able to prove and apply conjectures about perpendicular and parallel lines and angles, including parallel lines cut by a transversal.
- Students are able to identify triangle congruence and similarity and the conjectures pertaining to these areas.
- Students know and are able to apply the Pythagorean Theorem, knowledge of special right triangles (45-45-90, 30-60-90) and the basic trig functions (sin, cos, and tan) to problems involving right triangles.
- Students know side, angle, diagonal, and lines of symmetry properties of quadrilaterals (parallelograms, rectangles, trapezoids, rhombus, and squares).
- Students know and are able to apply concepts in a coordinate plane such as slope of a line, slopes of parallel lines, slopes of perpendicular lines, midpoint of a segment, and distance between two points.
- Students can identify and apply transformations including: rotations, reflections, translations, and dilations.
- Students are able to apply formulas for surface area and volume of three-dimensional figures (prisms, cylinders, pyramids, cones, and spheres) and understand the effect on volume and surface area when one or more linear dimensions change.
- Students will be able to draw accurate representations of planar figures, and are able to perform basic constructions including perpendicular bisector and angle bisector.
- Students will be able to identify parts of a circle and the various properties of a circle.
- Students will know the basic terminology involved in geometry.