"Student-Friendly" Standards for CCGPS Analytic Geometry

Unit 3 | Circles and Volume

Standard Code	Mastery Level	Standard
G.C.1		Prove that all circles are similar.
G.C.2		Identify and describe relationships among inscribed angles, radii, and chords.
		Identify and describe relationships between central, inscribed, and circumscribed angles.
		Identify inscribed angles on a diameter as right angles.
		Show that the radius of a circle drawn to the point where the tangent intersects the circle is perpendicular to the tangent line and use this relationship to solve problems.
G.C.3		Construct the inscribed and circumscribed circles of a triangle.
		Prove properties of angles for a quadrilateral inscribed in a circle.
G.C.4 +		Construct a tangent line to a circle from a point outside the circle.
G.C.5		Use similarity to derive the fact that the length of the arc intercepted by an angle is proportional to the radius, identifying the constant of proportionality as the radian measure of the angle.
		Find the arc length of a circle for angles measured in degrees and in radians.
		Using similarity, derive the formula for the area of a sector.
		Find the area of a sector in a circle for angles measured in degrees and in radians.
8.G.9		Know and use the formula for the volume of a sphere to solve real-world and mathematical problems.
G.GMD.1		Give an informal argument for these formulas. • circumference of a circle • area of a circle • volume of a cylinder • volume of a pyramid • volume of a cone Use dissection arguments, Cavalieri's principle, and informal limit arguments.

G.GMD.2 +		Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
G.GMD.3		Use the volume formulas for cylinders, pyramids, cones and spheres to solve problems.