CollegeBoard SpringBoard

2014 Geometry
Khan Academy Video Correlations
By SpringBoard Activity

Unit 4: Circles, Coordinates, and Constructions	
Activity 24 *Tangents and Chords* 24-1 Learning Targets: • Describe relationships among tangents and radii of a circle. • Use arcs, chords, and diameters of a circle to solve problems. 24-2 Learning Targets: • Describe relationships among diameters and chords of a circle. • Prove and apply theorems about chords of a circle. 24-3 Learning Targets: • Prove that tangent segments to a circle from a point outside the circle are congruent. • Use tangent segments to solve problems.	*Tangents and Chords in Circles* Language and notation of the circle Circles: radius, diameter, circumference and Pi Example with tangent and radius Perpendicular radius bisects chord
Activity 25 *Arcs and Angles* 25-1 Learning Targets: • Understand how to measure an arc of a circle. • Use relationships among arcs and central angles to solve problems. 25-2 Learning Targets: • Describe the relationship among inscribed angles, central angles, and arcs. • Use inscribed angles to solve problems. 25-3 Learning Targets: • Describe a relationship among the angles formed by intersecting chords in a circle. • Use angles formed by chords to solve problems. 25-4 Learning Targets: • Describe relationships among the angles formed by tangents to a circle or secants to a circle. • Use angles formed by tangents or secants to solve problems.	*Angles in Circles* Inscribed and central angles Measure of circumscribed angle

Activity 26 *Coordinate Proofs* 26-1 Learning Targets: • Write coordinate proofs. • Prove the midpoint formula. 26-2 Learning Targets: • Write coordinate proofs. • Prove the slope criteria for parallel and perpendicular lines. 26-3 Learning Targets: • Write coordinate proofs. • Prove that the medians of a triangle are concurrent. 25-4 Learning Targets: • Find the coordinates of the point that is a given fractional distance along a line segment. • Find the coordinates of the point that partitions a line segment in a given ratio.	N/A
Activity 27 *Equation of a Circle* 27-1 Learning Targets: • Derive the general equation of a circle given the center and radius. • Write the equation of a circle given three points on the circle. 27-2 Learning Targets: • Find the center and radius of a circle given its equation. • Complete the square to write the equation of a circle in the form $(x - h)^2 + (y - k)^2 = r^2$.	*Writing the Equation of a Circle* Equation for a circle using the Pythagorean theorem *Identifying Key Components of a Circle* Radius and center for a circle equation in standard form Recognizing points on a circle Pythagorean theorem and radii of circles Completing the square to write equation in standard form of a circle

Activity 28 *Equations of Parabolas* 28-1 Learning Targets: • Derive the general equation of a parabola given the focus and directrix. • Write the equation of a parabola given a specific focus and directrix. 28-2 Learning Targets: • Derive the general equation of a parabola given the vertex and directrix. • Write the equation of a parabola given a specific vertex and directrix.	*Writing the Equation of a Parabola* Focus and directrix introduction Using the focus and directrix to find the equation of a parabola Equation for parabola from focus and directrix Finding focus and directrix from vertex
Activity 29 *Constructions* 29-1 Learning Targets: • Use constructions to copy a segment or an angle. • Use constructions to bisect a segment or an angle. 29-2 Learning Targets: • Construct parallel and perpendicular lines. • Use constructions to make conjectures about geometric relationships. 29-3 Learning Targets: • Construct inscribed and circumscribed circles. • Construct tangents to a circle.	*Constructions with Segments and Angles* Constructing an angle bisector using a compass and straightedge *Constructions with Parallel and Perpendicular Lines* Constructing a perpendicular bisector using a compass and straightedge Constructing a perpendicular line using a compass and straightedge *Constructions with Circles* Constructing square inscribed in circle Constructing equilateral triangle inscribed in circle Constructing regular hexagon inscribed in circle Constructing circle inscribing triangle Constructing circumscribing circle