Updated August 2024

Marking Period	Unit Title	Recommended Instructional Days
3	Circles	16-20 days

Domain: Geometry

NJSLS Strand:

Key:

Major Cluster

Supporting Cluster

Additional Cluster

G.C.A.1: Prove that all circles are similar.

G.C.A.2: Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.

G.C.A.4 (+): Construct a tangent line from a point outside a given circle to the circle.

G.C.B.5: Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the

Progress Indicator:
Tests ● Quizzes ● Practice problems for homework ● Online textbook ● Worksheets ● Leveled assessments

Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLS-CLKS within Unit

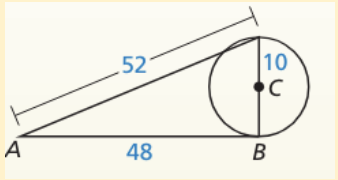
Essential Questions:

1. **How are arc length and sector area related to circumference and area of a circle?**
2. **How is a tangent line related to the radius of a circle at the point of tangency?**
3. **How are chords related to their central angles and intercepted arcs?**
4. **How is the measure of an inscribed angle related to its intercepted arc?**
5. **How are the measures of angles, arcs, and segments formed by intersecting secant lines related?**

Activity Description:

- **Lines and Segments that intersect circles**
- **Finding Arc Measures**
- **Using chords**
- **Inscribed Angles and Polygons**
- **Angle Relationship in circles**
- **Circles in the coordinate plane**
- **Circles in the coordinate plane**

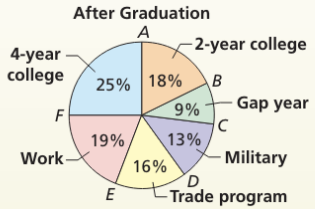
Interdisciplinary Connections:
Topic 10 Project
Design Space Cities
Suppose it's 500 years in the future. Space stations the size of small cities are journeying through space. Use trigonometry and the geometry of circles to calculate the measurements of two of these

angle as the constant of proportionality; derive the formula for area of a sector.		**stations, then design, measure and describe a group of three space cities.** Career Readiness, Life Literacies and Key Skills **Content:Design; Engineering; Construction. NJSLS#: G.CO.A.1, G.C.B.5, C.A.2) (Next Generation Science Standards ETS1-2)** **Spot Light On:** **Diversity and Inclusion** Essential Question: What is respect and how can we, as an individual/community express respect for ourselves and others at home or in the classroom? Objective: Students will learn how to appreciate diversity, respect others and their differences and build relationships with mutual respect in school, at home and within the community. EOD artwork and quotes, along with other educational sources, will be used **<u>Example Tasks:</u>** **Task 1:** Tell whether AB — is tangent to ⊙C. Explain  **Task 2:**

A survey asked high school seniors what they intend to do after graduating. The circle graph shows the results. Find each indicated arc measure.

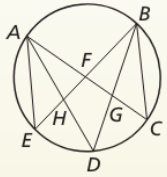
a. $\overset{\frown}{AB}$ b. $\overset{\frown}{AC}$

c. $\overset{\frown}{BD}$ d. $\overset{\frown}{ABF}$



Task 3:

List all the congruent angles in the figure



Mathematics Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reason of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Social and Emotional Learning:

Social and Emotional Learning:

Competencies	***Sub-Competencies***	
Self- awareness Social Awareness Self- Management Relationship Skills Responsible Decision-Making	Recognizing the importance of self-confidence in handling daily tasks and challenges. Demonstrate an awareness of the expectations for social interactions in a variety of ways. Demonstrate an understanding of the need for mutual respect when viewpoints differ. Recognize the skills needed to establish and achieve personal and educational goals. Utilize positive communication and social skills to interact effectively with others. Develop, implement, and model effective problem solving and critical thinking skills.	

Assessments (Formative) ***To show evidence of meeting the standard/s, students will successfully engage within:***	**Assessments (Summative)** ***To show evidence of meeting the standard/s, students will successfully complete:***
<u>Formative Assessments:</u> ● Entry and Exit Slips ● Quizzes ● Self Assessments	**<u>Benchmarks:</u>** ● Chapter Tests ● Projects ● LinkIT **<u>Summative Assessments:</u>** ● District Assessments ● Midterms ● Standardized Tests

Differentiated Student Access to Content: **Teaching and Learning *Resources/Materials***			
Core Resources	**Alternate Core Resources**	**ELL Core Resources**	**Gifted & Talented Core Resources**

	IEP/504/At-Risk/ESL		
• Textbooks websites • Achieve the core • Khan Academy • Desmos • GeoGebra	• Skill building worksheets • Math Manipulatives	• Dictionary for native languages • Videos in their native language.	• Leveled Assessments • Enrichment worksheets
Supplemental Resources			
Technology: • **Chromebooks, Graphing Calculators, Online math manipulatives** **Other:** • **Zoom and Google Meets, Schoology, Interactive Textbooks, Private Tutoring**			
Differentiated Student Access to Content: **Recommended *Strategies & Techniques***			
Core Resources	**Alternate Core Resources *IEP/504/At-Risk/ESL***	**ELL Core Resources**	**Gifted & Talented Core**
• **Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic, provide individual instruction as needed, modify assessments and/or rubrics, repeat**	• **Utilize a multi-sensory (VAKT) approach during instruction, provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.), modify test content and/or format, allow students to retake test for additional credit, provide additional times and preferential seating as needed, review, restate and repeat directions, provide study guides, and/or break**	• **Extend time requirements, preferred seating, positive reinforcement, check often for understanding/review, oral/visual directions/prompts when necessary, supplemental materials including use of an online bilingual dictionary, and modified assessment and/or rubric.**	• **Create an enhanced set of introductory activities, integrate active teaching/learning opportunities, incorporate authentic components, propose interest-based extension activities, and connect student to related**

	assignments into segments of shorter tasks.		

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	**Disciplinary Concept: Creativity and Innovation**	
	Core Ideas:	**With a growth mindset, failure is an important part of success**
	Performance Expectation/s:	**9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).**
	Career Readiness, Life Literacies, & Key Skills Practices	
	Act as a responsible and contributing community member and employee. **Attend to financial well-being.** **Consider the environmental, social and economic impacts of decisions.** **Demonstrate creativity and innovation.** **Utilize critical thinking to make sense of problems and persevere in solving them.** **Model integrity, ethical leadership and effective management.** **Plan education and career paths aligned to personal goals.** **Use technology to enhance productivity, increase collaboration and communicate effectively.** **Work productively in teams while using cultural/global competence.**	

New Jersey Legislative Statutes and Administrative Code (place an "X" before each law/statute if/when present within the curriculum map)									
	Amistad Law: *N.J.S.A. 18A 52:16A-88*		Holocaust Law: *N.J.S.A. 18A:35-28*		LGBT and Disabilities Law: *N.J.S.A. 18A:35-4.35*	**X**	Diversity & Inclusion: *N.J.S.A. 18A:35-4.36a*		Standards in Action: *Climate Change*