GRADES 1 to 12 DAILY LESSON LOG	School	Sauyo High School	Grade Level	Grade 10
	Teacher	Mr. Jonathan R. Bacolod, LPT	Learning Area	Mathematics
	Teaching Dates and Time	Week 17, September 23 – 27, 2019	Quarter	2nd

I. OBJECTIVES	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Learning Competencies/ Objectives:	1. Execute the inscribed angles and intercepted arcs; 2. Generate the inscribed angles and intercepted arcs to determine whether a binomial is a factor of a given polynomial; and, 3. Display perseverance and willingness in solving problems.	1. Recall the radii and chords; 2. Compute the radii and chords to determine whether a binomial is a factor of a given polynomial; and, 3. Demonstrate enjoyment and willingness in solving problems.	1. Apply the tangent lines and tangent circles; 2. Generate the tangent lines and tangent circles to determine whether a binomial is a factor of a given polynomial; and, 3. Exhibit enjoyment and willingness in solving problems.	1. Describe the angles formed by secants and tangents; 2. Find the angles formed by secants and tangents to determine whether a binomial is a factor of a given polynomial; and, 3. Show independence and willingness in solving problems.	1. Perform the power theorems; 2. Find the power theorems to determine whether a binomial is a factor of a given polynomial; and, 3. Exhibit determination and independence in solving problems.
II. CONTENT	**PATTERNS AND ALGEBRA**				
	Inscribed Angles and Intercepted Arcs	**Radii and Chords**	**Tangent Lines and Tangent Circles**	**Angles Formed by Secants and Tangents**	**Power Theorems**
III. LEARNING RESOURCES					
A. References					
1. Teacher's Guide Pages	pp. 125–130	pp. 131–134	pp. 135–140	pp. 141–144	pp. 145–150
2. Learner's Materials Pages	pp. 114–119	pp. 120–123	pp. 124–129	pp. 130–133	pp. 134–139
3. Textbook Pages	pp. 121–127	pp. 128–132	pp. 133–139	pp. 140–144	pp. 145–151
4. Additional Materials from Learning Resources Portal					
B. Other Learning Resources	Flashcards	Flashcards	Flashcards	Flashcards	Flashcards
IV. PROCEDURES					

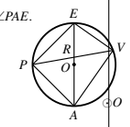
A. Reviewing Previous Lesson or Presenting New Lesson	**Inscribed Angles and Intercepted Arcs** **Inscribed angle:** an angle whose vertex lies on the circle and whose sides are chords of a circle The measure of an inscribed angle is **half** the measure of its intercepted arc. In a circle, if two inscribed angles intercept the same arc or congruent arcs, then the angles are congruent. An angle inscribed in a semicircle is a right angle and therefore the measure is equal to 90°. If a quadrilateral is inscribed in a circle, then its opposite angles are supplementary.	**Radii and Chords** **Perpendicular to a Chord Theorem:** The perpendicular from the center of the circle to any chord bisects the chord. **Center to Chord Midpoint Theorem:** The line joining the center of the circle to the midpoint of any chord which is not a diameter is perpendicular to the chord. **Perpendicular Bisector Chord to Center Theorem:** The perpendicular bisector of a chord of a circle passes through the center of the circle. **Perpendicular Bisector Chord to Central Angle Theorem:** The perpendicular bisector of a chord of a circle bisects the central angle subtended by the chord. **Central Angle Bisector Theorem:** The bisector of a central angle subtended by the chord is the perpendicular bisector of the chord. **Distance–Chord Theorem:** In the same circle or in congruent circles, chords are congruent if and only if their distances from the center(s) of the circle(s) are equal. **Chord – Arc Congruence Theorem:** In a circle or in congruent circles, two minor arcs are congruent if and only if their corresponding chords are congruent.	**Tangent Lines and Tangent Circles** **Tangent Line:** a line in the plane of the circle that intersects the circle at exactly one point **Point of Tangency:** the point of intersection **Tangent Circles:** two circles whose intersection is exactly one point **Common Tangent:** a line which is tangent to two circles **Common Internal Tangent:** a common tangent which intersects the segment joining the centers of two circles **Common External Tangent:** a common tangent which does not intersect the segment joining the centers of two circles **Internally Tangent Circles:** circles that are coplanar, share a common point of tangency, and with centers that lie on the same side of their common tangent **Externally Tangent Circles:** circles that are coplanar, share a common point of tangency, and with centers that lie on the opposite sides of their common tangent **Tangent Line Theorem:** If a line is tangent to a circle, then it is perpendicular to the radius drawn to the point of tangency. **Converse of the Tangent Line Theorem:** In a plane, if a line is perpendicular to a radius of a circle at the endpoint, then it is drawn to the point of tangency. **Tangent Segments Theorem:** If two tangent segments are drawn to a circle from an external point, then a. the two tangent segments are congruent, and b. the angles between the tangent segments and the line joining the external point to the center of the circle are congruent **Tangent Circles Theorem:** If two circles are tangent internally or externally, then their line of centers pass through the point of contact.	**Angles Formed by Secants and Tangents** **Intersecting Secants – Exterior Theorem:** The measure of an angle formed by two secants that intersect in the exterior of a circle is one-half the difference of its intercepted arcs. **Tangent Point – Secant Theorem:** The measure of an angle formed by a tangent and a secant drawn at the point of contact is one-half the measure of its intercepted arc. **Intersecting Secants – Interior Theorem:** The measure of an angle formed by two secants intersecting in the interior of the circle is equal to one-half the sum of the measures of its intercepted arcs.	**Power Theorems**
B. Establishing a Purpose for the Lesson	The purpose of this lesson is to enable the students to solve real life problems involving the inscribed angles and intercepted arcs.	The purpose of this lesson is to enable the students to solve real life problems involving the radii and chords.	The purpose of this lesson is to enable the students to solve real life problems involving the tangent lines and tangent circles.	The purpose of this lesson is to enable the students to solve real life problems involving the angles formed by secants and tangents.	The purpose of this lesson is to enable the students to solve real life problems involving the power theorems.

C. Discussing New Concepts and Practicing New Skills #1

Practice Exercises

A. Refer to $\odot O$ to answer the following.

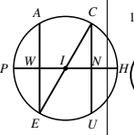
1. Name the angle that intercept $\overset{\frown}{AP}$.
2. Name the angles that intercept $\overset{\frown}{EV}$.
3. Name the arc that is intercepted by $\angle PAE$.
4. Name the arc that is intercepted by $\angle EVP$.
5. If $m\angle PEA$ 48°, then $m\overset{\frown}{AP}$ _____ and $m\angle AVP$ _____.
6. $m\angle EPA$ _____
7. $m\angle EVP$ $m\angle PVA$ _____
8. If $m\angle VEP$ 100°, then $m\angle PAV$ _____.



Practice Exercises

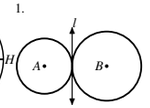
A. In $\odot I$, $\overline{PH}$ and $\overline{CE}$ are diameters with $\overline{PH} \perp \overline{AE}$ and $\overline{PH} \perp \overline{CU}$.

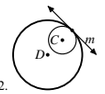
1. Name the midpoint of $\overline{PH}$.
2. Name the midpoint of $\overline{CE}$.
3. Name the midpoint of $\overline{AE}$.
4. Name the midpoint of $\overline{CU}$.
5. If $\overline{IW} \sim \overline{IN}$, name a chord congruent to $\overline{AE}$ and an arc congruent to $\overset{\frown}{CHU}$.
6. Name two arcs congruent to $\overset{\frown}{AP}$.



Practice Exercises

A. Give the appropriate term for each figure below.

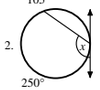
1. 

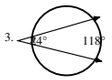
2. 

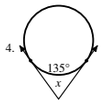
Practice Exercises

Find the value of x.

1. 

2. 

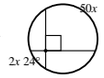
3. 

4. 

5. 

6. 

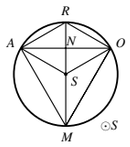
7. 

8. 

D. Discussing New Concepts and Practicing New Skills #2

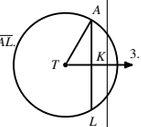
B. Given $\odot S, \overline{AR} \sim \overline{RO} \sim \overline{OS} \sim \overline{SA}, m\angle AMR$ $3x$ 20 and $m\angle OMR$ x 30. Find each measure.

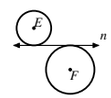
1. x
2. $m\angle AMR$
3. $m\angle ORM$
4. $m\overset{\frown}{AM}$
5. $m\angle RNO$
6. $m\angle RAM$
7. $m\overset{\frown}{AR}$
8. $m\overset{\frown}{OM}$
9. $m\angle ROM$
10. $m\angle AMO$

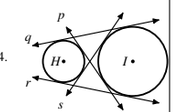


B. In $\odot T$, $\overline{AT}$ is a radius and $\overline{AL}$ is a chord.

1. If $\overline{TK} \perp \overline{AL}$, then $\overline{TK}$_____$\overline{AL}$.
2. If $\overline{TK}$ bisects $\angle ATL$, then $\overline{TK}$_____$\overline{AL}$.
3. If $\overline{TK}$ is a perpendicular bisector of $\overline{AL}$, then $\overline{TK}$_____$\angle ATL$.
4. The altitude $\overline{TK}$ to the base of ΔATL is also a _____.

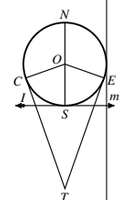


3. 

4. 

B. In $\odot O$, $\overline{CT}$, $\overline{ET}$ are tangent segments and m is tangent to $\odot O$ at S.

1. $m\angle OCT$ _____.
2. $m\angle OSI$ _____.
3. If $\overline{SN}$ 24 units, then $\overline{OE}$ _____.
4. If $\overline{OS}$ 5 units and $\overline{SI}$ 12 units, then $\overline{OI}$ _____.
5. If $\overline{CT}$ 15 units, then $\overline{ET}$ _____.
6. If $\overline{OC}$ 8 units and $\overline{ET}$ 15 units, then $\overline{OT}$ _____.
7. If $\overline{OE}$ 11 units, then $\overline{NS}$ _____.
8. If $\overline{OS}$ 7 units and $\overline{OT}$ 25 units, then $\overline{CT}$ _____.

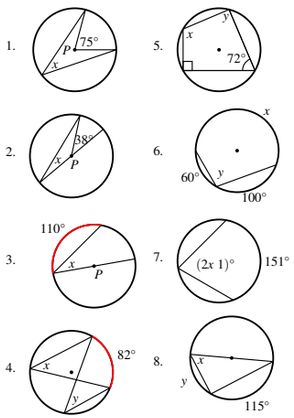


Practice Exercises

E. Developing Mastery

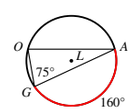
Problem Set

A. Use the given figures to find the value of x and y.



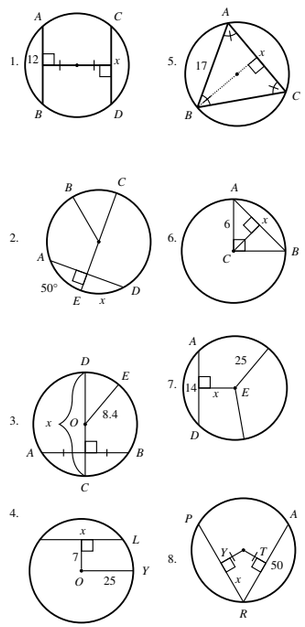
B. ΔGOA is inscribed in $\odot L$. If $m\angle OGA$ 75° and $m\widehat{AG}$ 160°, find:

1. $m\widehat{OA}$
2. $m\widehat{OG}$
3. $m\angle GOA$
4. $m\angle GAO$



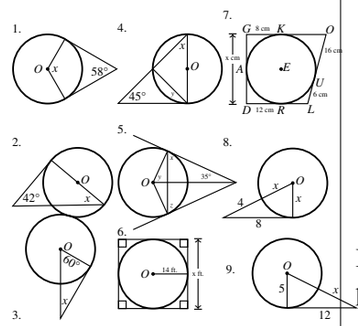
Problem Set

Find the value of x in each figure.



Problem Set

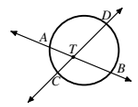
Use the given figures to find the values of x and y.



Problem Set

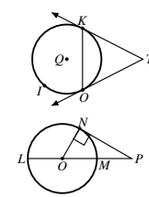
A. Use the figure to solve the following.

1. If $m\widehat{AC}$ 40° and $m\widehat{BD}$ 80°, find $m\angle ATC$.
2. If $m\angle BTC$ 142° and $m\widehat{AD}$ 156°, find $m\widehat{BC}$.
3. If $m\widehat{ADB}$ 208°, $m\widehat{AC}$ 52° and $m\widehat{DBC}$ 192°, find $m\angle ATD$.



B. Solve each problem completely.

1. The angle formed by two secants intersecting in the exterior of the circle measures 64°. One of the intercepted arcs is 208°. Find the other arc.
2. In $\odot Q$, the endpoints of chord $\overline{OK}$ are the points of tangency of lines $\overleftrightarrow{TO}$ and $\overleftrightarrow{TK}$. If ΔTOK is an equilateral triangle, find $m\widehat{OIK}$.
3. In $\odot O$, $\overline{LM}$ is a diameter of $\odot O$ where $\overline{OM}$ extends its own length to P. If $\overline{PN}$ is a tangent segment to $\odot O$ at N, find $m\angle P$.



Problem Set

F. Finding Practical Application of Concepts and Skills in Daily Living	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of inscribed angles and intercepted arcs? 2. How can you apply your knowledge of inscribed angles and intercepted arcs in solving these real life problems?	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of radii and chords? 2. How can you apply your knowledge of radii and chords in solving these real life problems?	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of tangent lines and tangent circles? 2. How can you apply your knowledge of tangent lines and tangent circles in solving these real life problems?	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of angles formed by secants and tangents? 2. How can you apply your knowledge of angles formed by secants and tangents in solving these real life problems?	Let the students answer the following questions: 1. In what real life situations or problems can we observe some examples of power theorems? 2. How can you apply your knowledge of power theorems in solving these real life problems?
G. Making Generalization and Abstractions about the Lesson	Let the students answer the following questions: 1. In your own words, what is the inscribed angles and intercepted arcs? 2. How do we solve problems involving inscribed angles and intercepted arcs?	Let the students answer the following questions: 1. In your own words, what is the radii and chords? 2. How do we solve problems involving radii and chords?	Let the students answer the following questions: 1. In your own words, what is the tangent lines and tangent circles? 2. How do we solve problems involving tangent lines and tangent circles?	Let the students answer the following questions: 1. In your own words, what is the angles formed by secants and tangents? 2. How do we solve problems involving angles formed by secants and tangents?	Let the students answer the following questions: 1. In your own words, what is the power theorems? 2. How do we solve problems involving power theorems?
H. Evaluating Learning					
I. Additional Activities for Application or Remediation					
VI. REMARKS	Objectives have been attained: _____ Objectives were not attained due to: _____	Objectives have been attained: _____ Objectives were not attained due to: _____	Objectives have been attained: _____ Objectives were not attained due to: _____	Objectives have been attained: _____ Objectives were not attained due to: _____	Objectives have been attained: _____ Objectives were not attained due to: _____
VII. REFLECTION					

A. No. of learners who earned 80% in the evaluation	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____
B. No. of learners who require additional activities for remediation who scored below 80%	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____	10–Bohr: _____out of _____ 10–Avogadro: _____out of _____
C. Did the remedial lessons work? No. of learners who have caught up with the lesson	10–Bohr: _____ 10–Avogadro: _____	10–Bohr: _____ 10–Avogadro: _____	10–Bohr: _____ 10–Avogadro: _____	10–Bohr: _____ 10–Avogadro: _____	10–Bohr: _____ 10–Avogadro: _____
D. No. of learners who continue to require remediation	10–Bohr: _____ 10–Avogadro: _____	10–Bohr: _____ 10–Avogadro: _____	10–Bohr: _____ 10–Avogadro: _____	10–Bohr: _____ 10–Avogadro: _____	10–Bohr: _____ 10–Avogadro: _____
E. Which of my teaching strategies worked well? Why did these work?					
F. What difficulties did I encounter which my principal or supervisor can help me solve?					
G. What innovation or localized materials did I use/discover which I wish to share with other teachers?					

Checked by:

DR. LORETO R. DOMINGO
Head, Mathematics Department