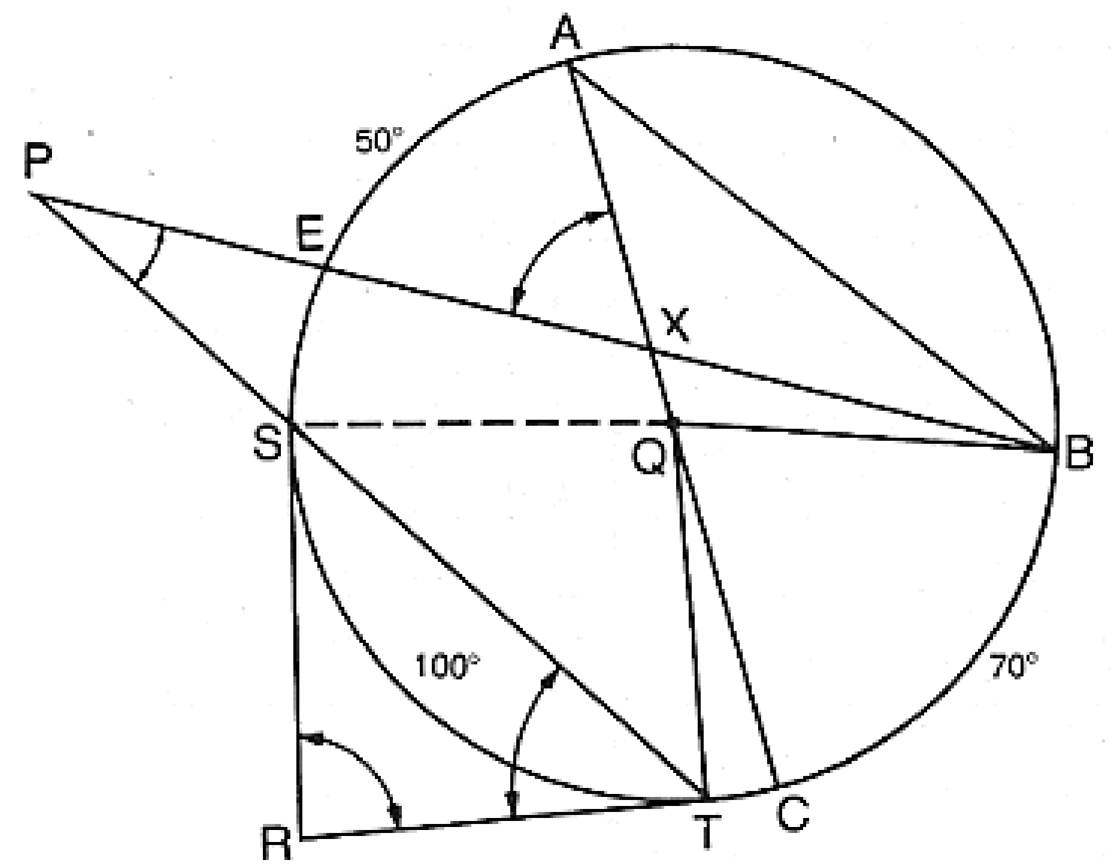
Accelerated Geometry **AMDG** **Name_____________________________________Period ___**
Chapter 10 Review for the OFE **Wednesday, February 03, 2016**
Circle S, A or N to tell whether each statement is SOMETIMES, ALWAYS or NEVER true.

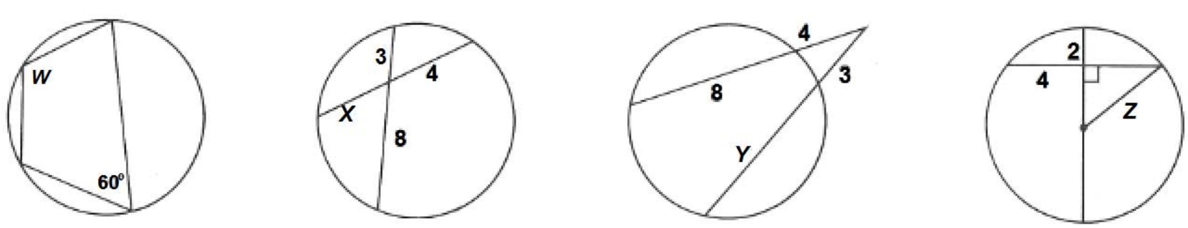
Problems 1-9. Given ⊙O, $\overline{RT}$ and $\overline{SR}$ are tangents, $\overline{AC}$ is a diameter, $\overset{\frown}{AE}$ is 50°, $\overset{\frown}{ST}$ is 100°, $\overset{\frown}{TC}$ is 5°, m∠CQB is 70°.
Note: S, Q, & B are not collinear; SQB is NOT a diameter.

1. **Find m $\overset{\frown}{ES}$**
2. **Find m∠R**
3. **Find m∠P**
4. **Find m∠AQB**
5. **Find m∠XAB**
6. **Find m∠AXE**
7. **Find m∠SQT**
8. **Find m∠STR**
9. **Find m $\overset{\frown}{AB}$**



Problem 10 a-d. Show work where needed. Place your answer in the blank. (3 points each; 12 total.)

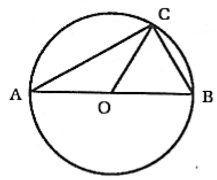
W:	
X:	
Y:	
Z:	



Problems 11-22. Show work where needed. Place your answer in the left-most column. (6 points each.)

<table>
<tr><td>11.</td><td>

⊙O
∠OCB = 75°
Find the measure of ∠A.



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<tr><td>12.</td><td>

A square with an area of 289 is inscribed in a circle. Find the diameter of the circle.

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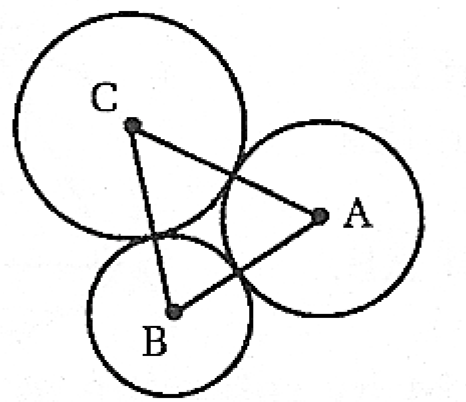
<tr><td>13.</td><td>

Given AC = 14, AB = 10, and CB = 18. Find the length of the radius of the largest circle.



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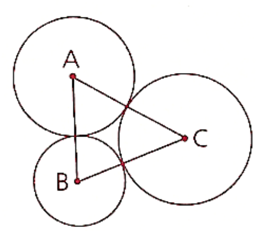
<tr><td>14.</td><td>

Given: Tangent ⓢ A, B, and C,
AB = 8, BC = 13, AC = 11
Find: The radii of the three ⓢ (Hint:
This is a walk-around problem.)



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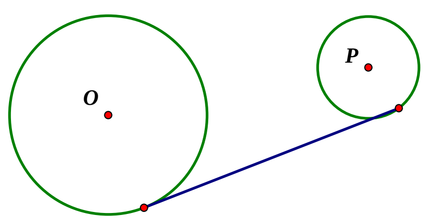
<tr><td>15.</td><td>

⊙O with radius 8, ⊙P with radius 3. The length of the common external tangent segment is 12. Find the distance between the two circles (that is $\overline{OP}$).



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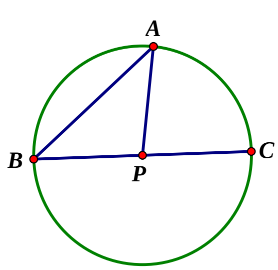
<tr><td>16.</td><td>

It is given that ∠BAP = 40°. If a point is chosen at random on ⊙P, what is the probability that it is on $\overset{\frown}{\mathbf{AB}}$?



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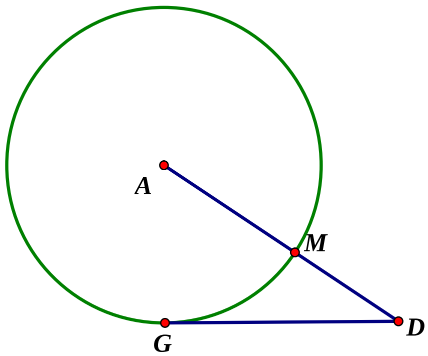
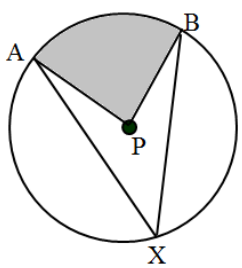
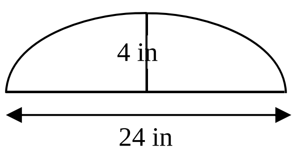
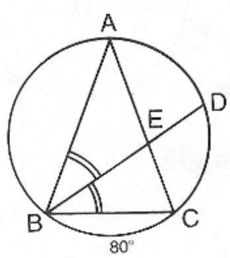
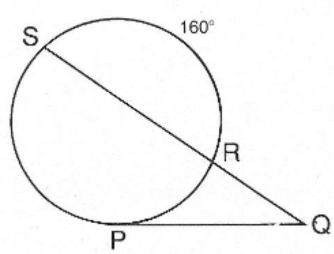
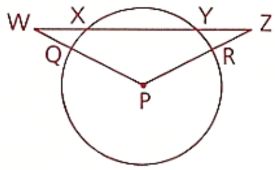
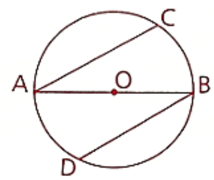
17.	Find the length of the radius of $\odot$A if MD = 4 & DG = 6. 
18.	Find the exact length *(not measure!)* of $\overset{\frown}{ACE}$ if regular hexagon ABCDEF is inscribed in a circle with diameter of 12 inches.
19.	Find the exact area of ***sector APB*** in $\odot P$ given PB = 6cm and $m\angle AXB = 45^\circ$. 
20.	An arc above a window is 24 inches wide with a maximum height (mid-span) of 4 inches. Find the radius of the arc. 
21.	Given: $\overline{AB} \cong \overline{AC}$ $\overset{\frown}{BC} = 80^\circ$ $\overrightarrow{BD}$ bis. $\angle$ABC. Find m$\angle$DEC. 
22.	$\overset{\frown}{SP} : \overset{\frown}{PR} = 3:2$ Find m$\angle$Q. 

Proofs: Complete on separate paper.
Remember that there is more than one way to write a proof. Hence, more than one proof will be correct. "Brevity is beautiful" therefore the shortest proof (that is complete) is preferable.

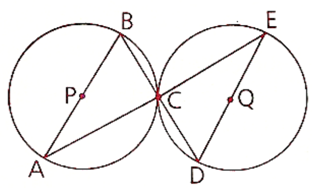
1.
Given: $\odot P$, $\overline{WX} \cong \overline{YZ}$
Prove: $\overline{WQ} \cong \overline{ZR}$



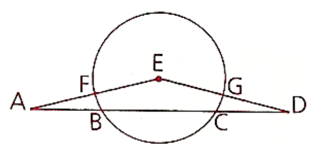
2.
Given: $\overline{AB}$ is a diameter of $\odot O$.
$\overleftrightarrow{AC} \parallel \overleftrightarrow{BD}$
Conclusion: $\overline{AC} \cong \overline{BD}$



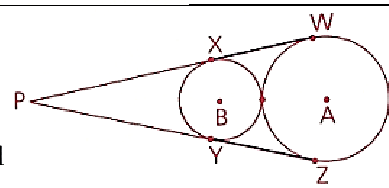
3.
Given: $\odot P \cong \odot Q$,
$\overline{BC} \cong \overline{CD}$
Conclusion: $\angle A \cong \angle E$



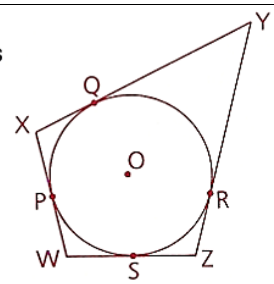
4.
Given: $\odot E$,
$\overline{AB} \cong \overline{CD}$
Conclusion: $\overset{\frown}{FB} \cong \overset{\frown}{CG}$



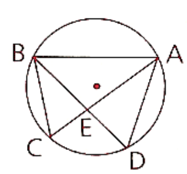
5.
Given: $\overline{PW}$ and $\overline{PZ}$ are common tangents to ⓢ A and B at W, X, Y, and Z.
Prove: $\overline{WX} \cong \overline{YZ}$ (Hint: No auxiliary lines are needed.)
Note This is part of the proof of a useful property: The common external tangent segments of two circles are congruent.



6.
Given: Quadrilateral WXYZ is *circumscribed about* $\odot O$ (that is, its sides are tangent to the $\odot$).
Prove: XY + WZ = WX + YZ



7.
Given: $\overset{\frown}{BC} \cong \overset{\frown}{CD}$
Conclusion: $\triangle ABC \sim \triangle AED$



8.
Given: $\odot O$, with chords $\overline{AC}$ and $\overline{BD}$ intersecting at E
Prove: **a** $m\overset{\frown}{AB} + m\overset{\frown}{CD} = 2(m\angle CED)$
b $AE \cdot EC = BE \cdot ED$