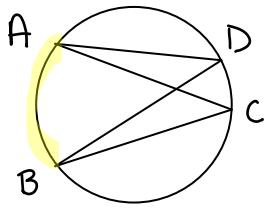
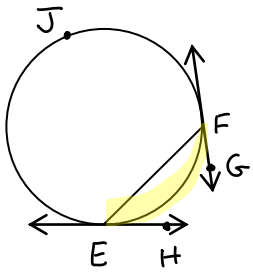
Accelerated Geometry ***Name*** _____
Section 10.6: More Angle-Arc Theorems ***Date*** 4/25

Goals: After studying this section, you will be able to
- Recognize congruent inscribed and tangent-chord angles
- Determine the measure of an angle inscribed in a semicircle
- Apply the relationship between the measures of a tangent-tangent angle and its minor arc

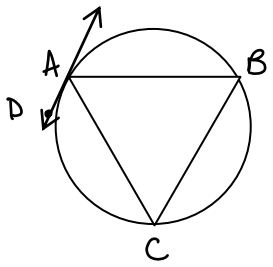
1. What type of angles are $\angle ADB$ and $\angle ACB$? inscribed $\angle$s
2. What arc is intercepted by $\angle ADB$ and $\angle ACB$? $\overset{\frown}{AB}$
3. What can you conclude about $\angle ADB$ and $\angle ACB$? $\cong$



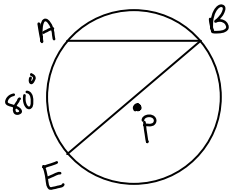
4. What type of angles are $\angle EFG$ and $\angle FEH$? Tangent-chord $\angle$s
5. What arc is intercepted by $\angle EFG$ and $\angle FEH$? $\overset{\frown}{EF}$
6. What can you conclude about $\angle EFG$ and $\angle FEH$? $\cong$

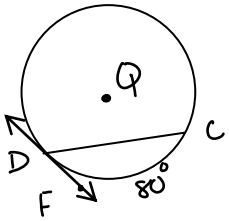


7. Write an expression relating $m\angle ABC$ to its intercepted arc. $m\angle ABC = \frac{1}{2}(m\overset{\frown}{AC})$
8. Write an expression relating $m\angle DAC$ to its intercepted arc. $m\angle DAC = \frac{1}{2}(m\overset{\frown}{AC})$
9. What is true about $\angle ABC$ and $\angle DAC$? $\angle ABC \cong \angle DAC$



10. Circle $P \cong$ Circle Q. What is true about $\angle ABE$ and $\angle CDF$? $\angle ABE = \angle CDF = 40°$





Theorem: In the same or congruent circles, if two inscribed or tangent-chord angles intercept the same or congruent arcs, then the angles are ___congruent___**.**

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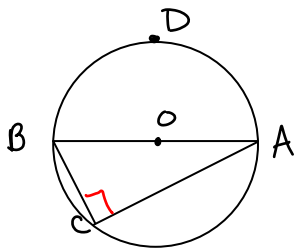
With the person sitting next to you, discover the following 3 theorems!

In circle O, the diameter is $\overline{AB}$.

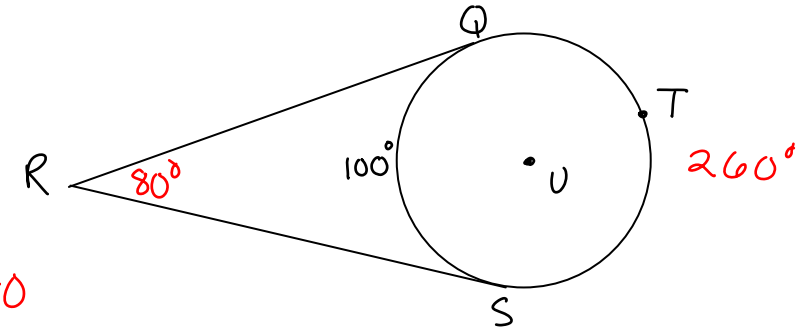


11. What is ACB? semicircle

12. What is ADB? semicircle

13. What is $m\angle BCA$? 90

Theorem: An angle inscribed in a semicircle **is a** right angle**.**

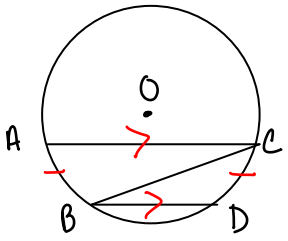


14. Find the $m\angle R$. $= \frac{260-100}{2}$

15. Find the sum of the $m\angle R$ and mQS. 180

Theorem: The sum of the measures of a tangent-tangent angle and its minor arc is 180**.**

In circle O, $\overline{AC} \parallel \overline{BD}$.



16. What type of angles are $\angle C$ and $\angle B$? inscribed

17. What must be true about AB and CD? $\cong$

Theorem: In a circle, if two chords are parallel, then their intercepted arcs are $\cong$**.**