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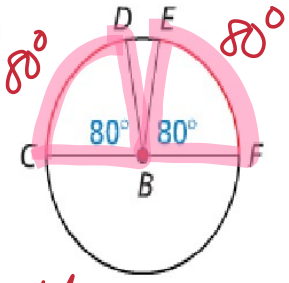
degree

Tell whether the red arcs are congruent. Explain why or why not.

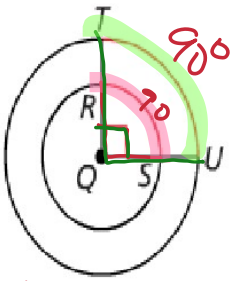
a.



80° 80°

yes

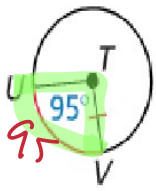
b.



90° 90°

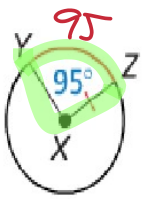
Yes

c.



95 95

yes



95

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In Exercises 1 and 2, use the diagram of $\odot D$.

1. If $m\overset{\frown}{AB} = 110°$, find $m\overset{\frown}{BC}$.

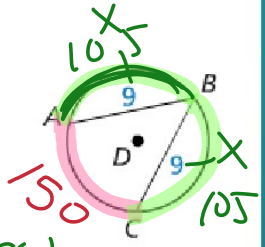
110

2. If $m\overset{\frown}{AC} = 150°$, find $m\overset{\frown}{AB}$.

$2x = 210$

$-150 + 2x = 360$

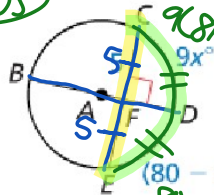
$x = 105$



In Exercises 3 and 4, find the indicated length or arc measure.

3. CE

$5 + 5 = 10$



$9(8) = 72°$

4. $m\overset{\frown}{CE}$

$9x = 80 - x$

$+x \quad +x$

$\frac{10x}{10} = \frac{80}{10}$

$x = 8$

$80 - 8 = 72°$

$72 + 72$

$144°$

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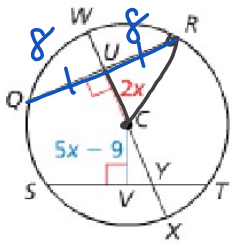
$a^2+b^2=c^2$

$6+8=c^2$

$36+64=c^2$

$100=c^2$

$\sqrt{100}=10$



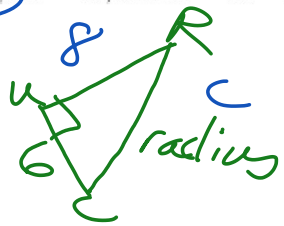
In the diagram, $QR = ST = 16$, $CU = 2x$, and $CV = 5x - 9$. Find the radius of $\odot C$.

$2x = 5x - 9$

$-5x \quad -5x$

$\frac{-3x}{-3} = \frac{-9}{-3}$

$x = 3$



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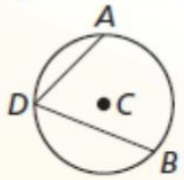
Theorem

Theorem 10.10 Measure of an Inscribed Angle Theorem

The measure of an inscribed angle is one-half the measure of its intercepted arc.



$m\angle ADB = \frac{1}{2}m\overset{\frown}{AB}$

Proof Ex. 37, p. 560

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Theorem

Theorem 10.14 Tangent and Intersected Chord Theorem

If a tangent and a chord intersect at a point on a circle, then the measure of each angle formed is one-half the measure of its intercepted arc.