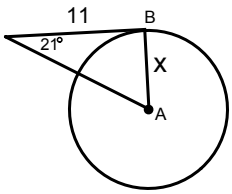
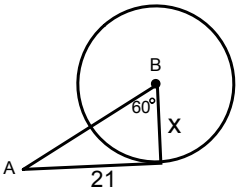
Ch 11 Day 4 inscribed angles

Bellwork

1.



2.



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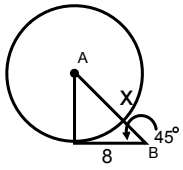

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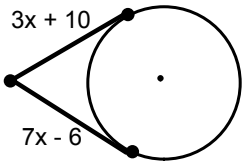

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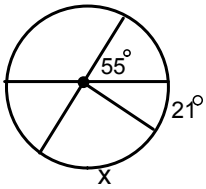

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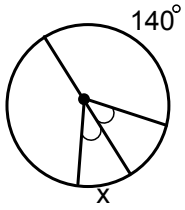
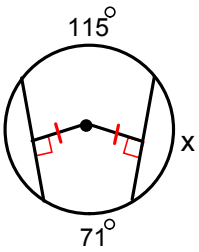


7.



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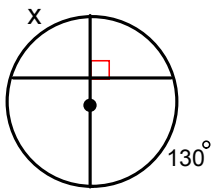
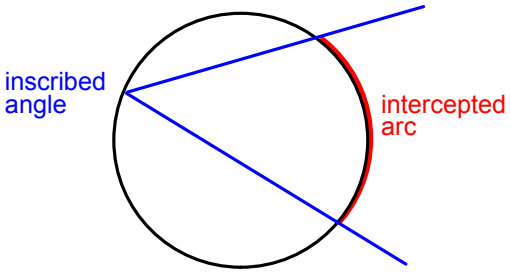


9. If the diameter of a circle is 32 mm long and a chord is 26 mm long, how far from the center is the chord?

10. If a chord is 18 ft. long and is 6 ft. from the center, what is the radius of the circle?

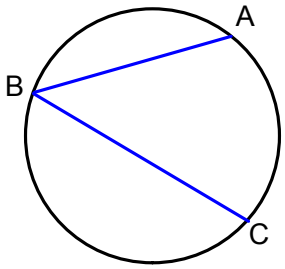
Ch 11 Day 4 inscribed angles

An **inscribed angle** is an angle whose vertex is on a circle and whose sides contain chords of the circle. The arc that lies in the interior of an inscribed angle and has endpoints on the angle is called the **intercepted arc** of the angle.

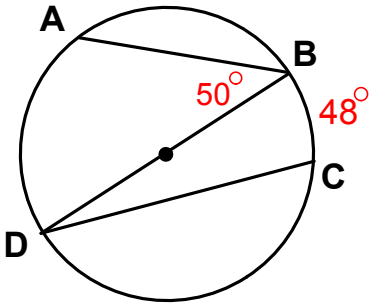


The measure of an inscribed angle is one half the measure of its intercepted arc.

$$m\angle ABC = \frac{1}{2}m\overset{\frown}{AC}$$



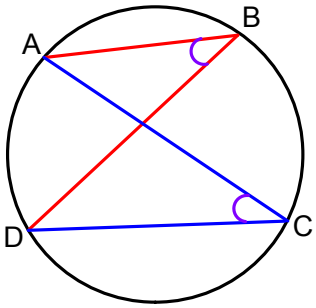
Find all the measure of all the arcs and angles.



Ch 11 Day 4 inscribed angles

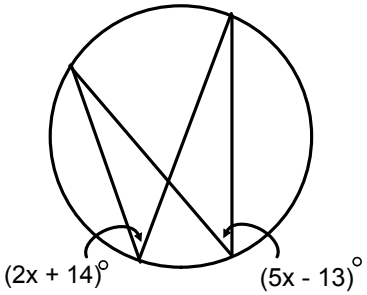
* **If two inscribed angles of a circle intercept the same arc, then the angles are conguent.**

$m\angle ABD$ $m\angle ACD$

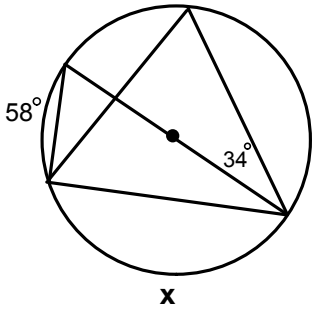


Can you name two other congruent angles?

Find the value of x.

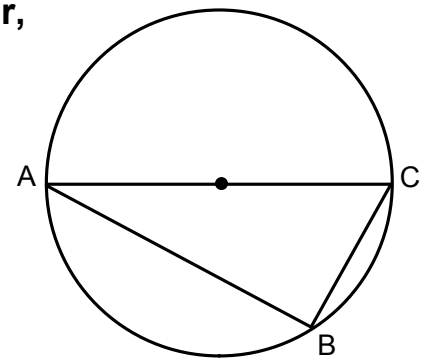


Try this one!

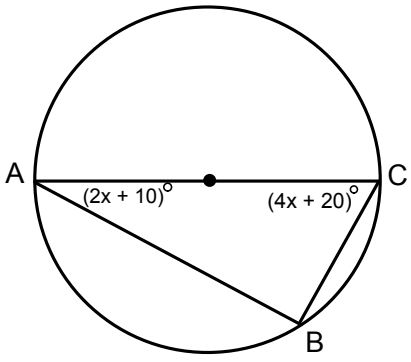


***If an inscribed angle intercepts a diameter, then the angle is a right angle.**

If $\overline{AC}$ is a diameter then $\angle ABC$ is a right angle.

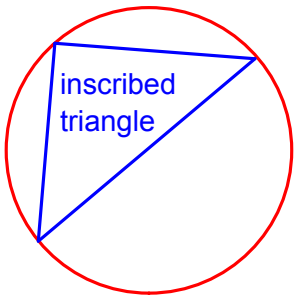


Find the value of x.

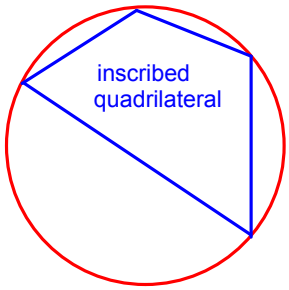


Ch 11 Day 4 inscribed angles

A polygon is an **inscribed polygon** if all of its vertices lie on a circle. The circle that contains the vertices is a **circumscribed circle**.



circumscribed
circles



Find all the angles and arcs.

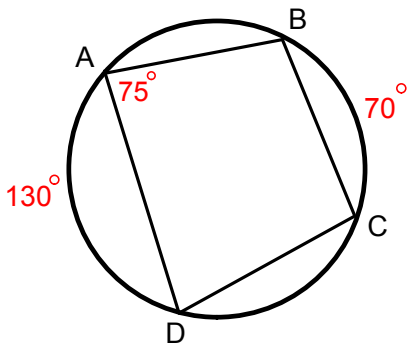
$\angle B =$

$\angle C =$

$\angle D =$

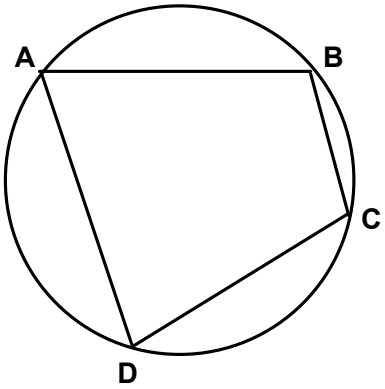
$\overset{\frown}{AB} =$

$\overset{\frown}{CD} =$



Do you notice anything about the opposite angles of the quadrilateral?

* **The opposite angles of an inscribed quadrilateral are supplementary.**



$m\angle A + m\angle C = 180^\circ$

$m\angle B + m\angle D = 180^\circ$

Find all the missing angles and arcs.