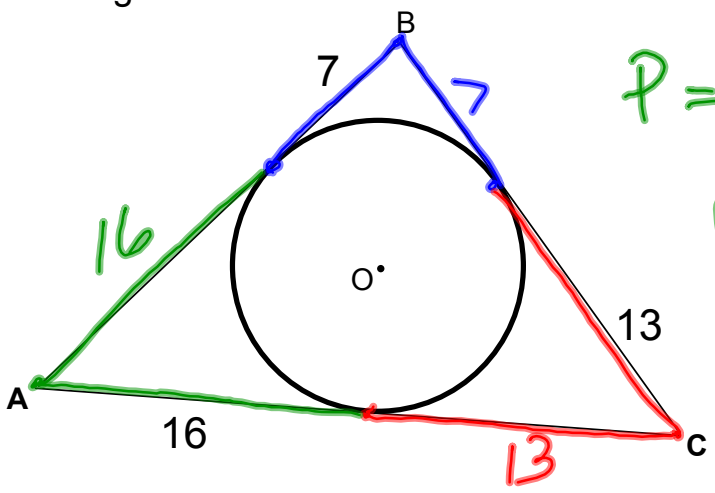
Turn in Investigation from yesterday!

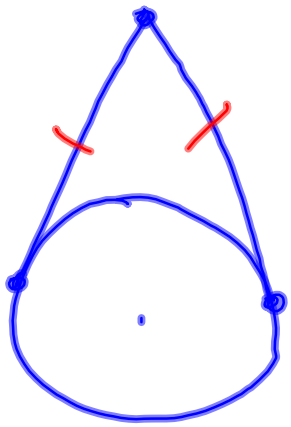
Do-now: If AB, BC, and AC are all tangent to circle O, what is the perimeter of triangle ABC?



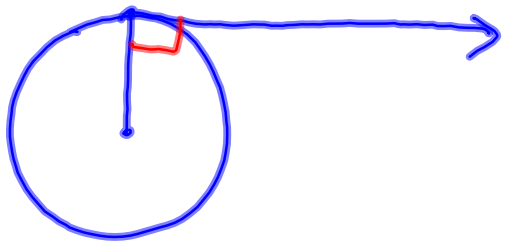
$P = 7+7+13+13+16+16$

$P = 72$

TANGENT PROPERTIES

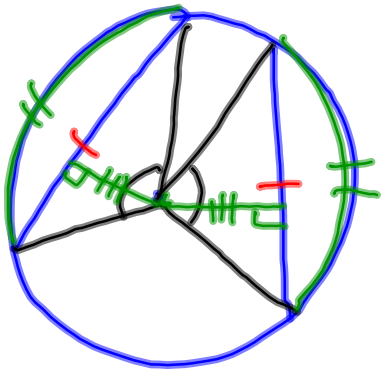


2 tangents from the same point are $\cong$

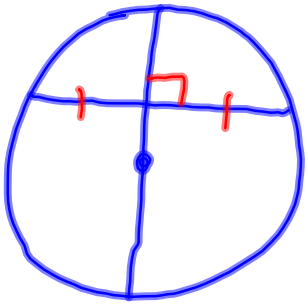


a radius and a tangent are $\perp$

CHORD PROPERTIES

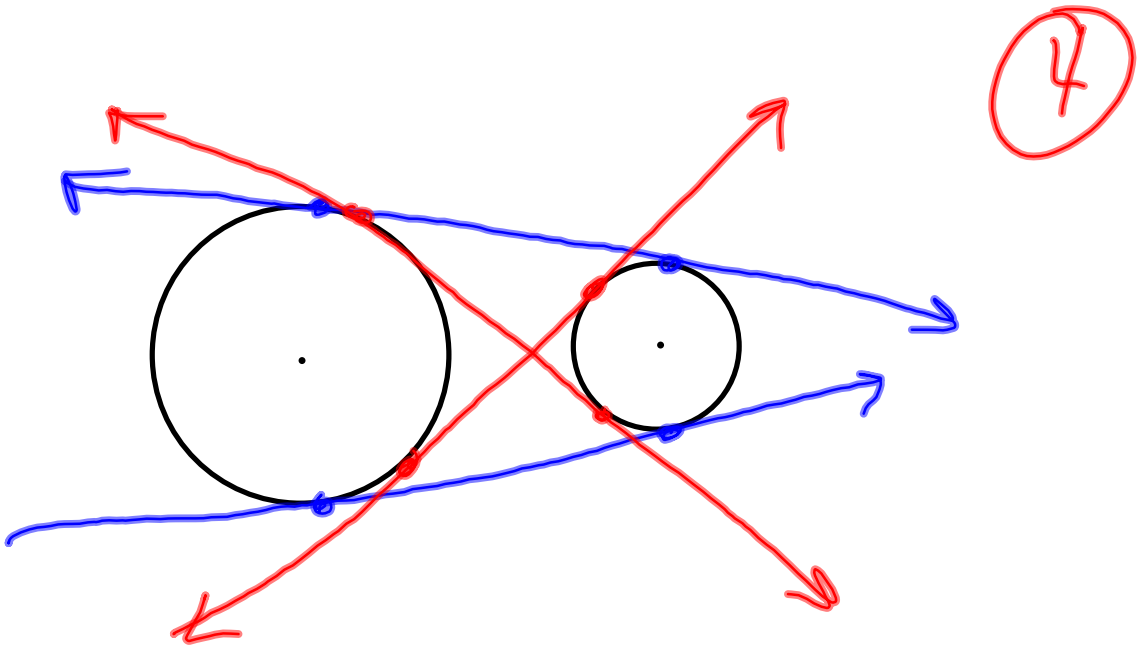


$\cong$ chords $\rightarrow$
$\cong$ arcs $\rightarrow$
$\cong$ central $\angle$s $\rightarrow$
equidistant from center

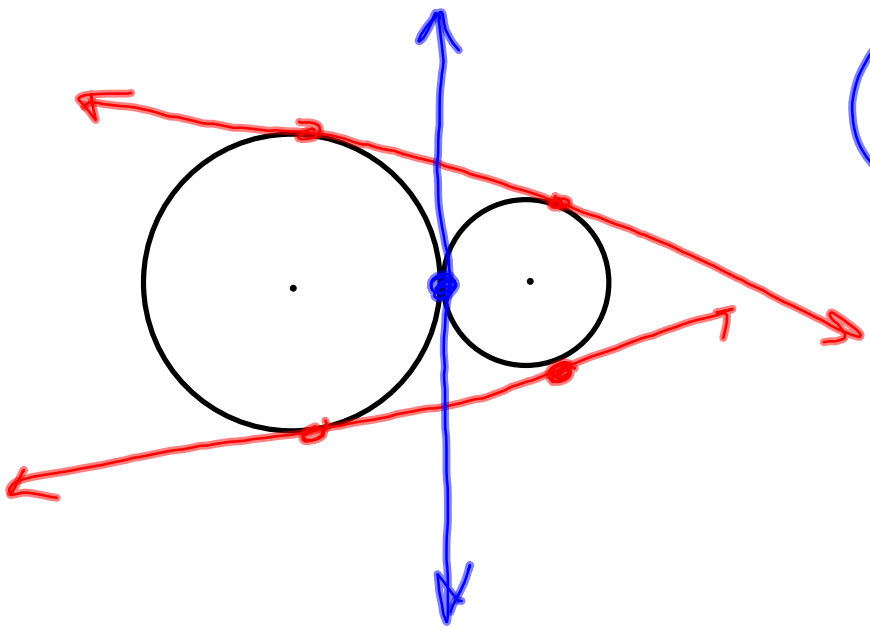


If a diameter is $\perp$ to a chord then it bisects the chord.

How many common tangent lines can be drawn to the 2 circles below?

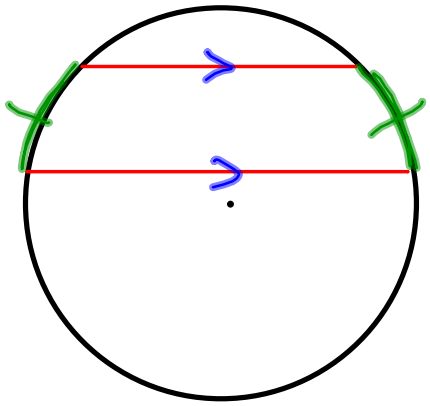


How many common tangent lines can be drawn to the 2 circles below?



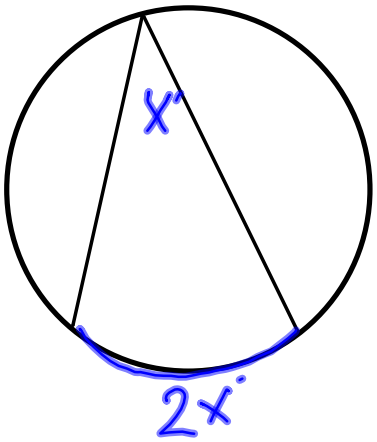
3

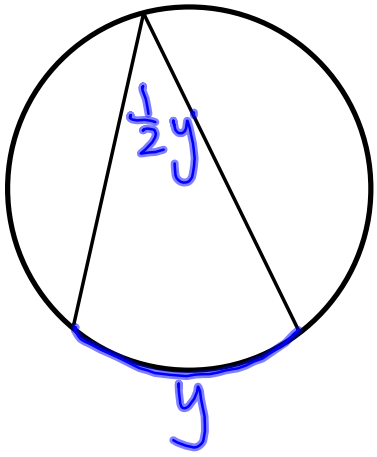
Parallel chords intercept $\cong$ arcs



Inscribed Angles

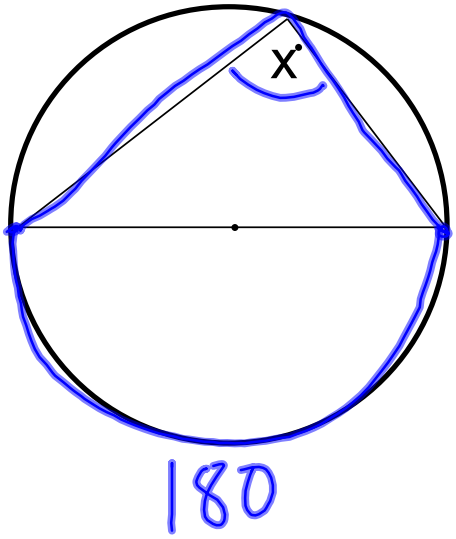
Vertex is on the circle





inscribed ∠ = ½ intercepted arc

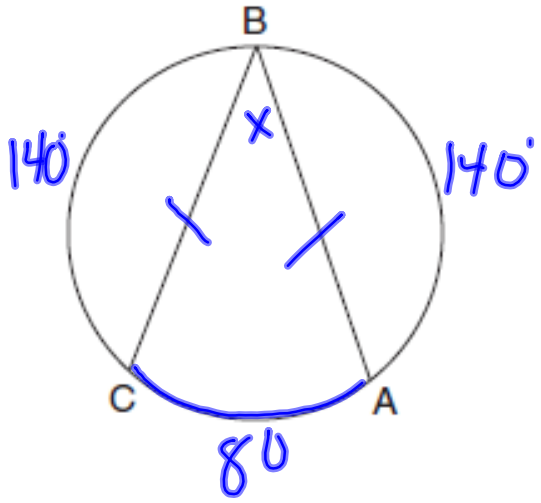
What is the measure of x?



$x = \frac{1}{2}(180)$

$x = 90$

If chords $\overline{BA}$ and $\overline{BC}$ are congruent and $m\overset{\frown}{BC} = 140$, what is $m\angle B$?

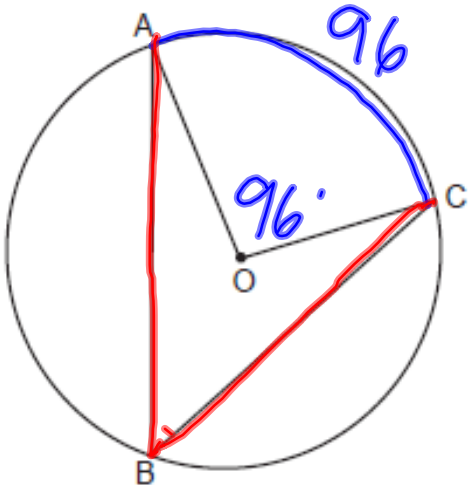


$360 - 280 = 80$

$\angle B = \frac{1}{2}(80)$

$\angle B = 40$

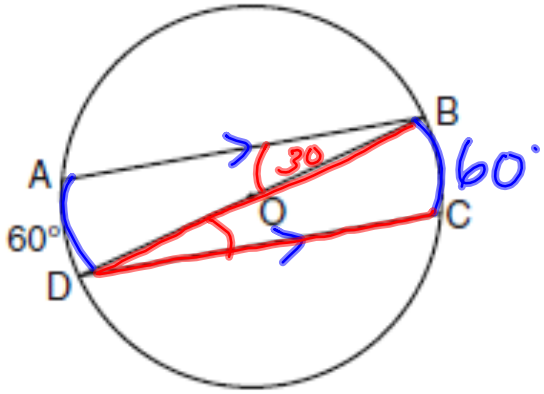
In the accompanying diagram of circle O, $\overline{AB}$ and $\overline{BC}$ are chords and $m\angle AOC = 96$. What is $m\angle ABC$?



$\angle ABC = \frac{1}{2}(96)$

$\angle ABC = 48$

In the diagram of circle O below, chords $\overline{AB}$ and $\overline{CD}$ are parallel, and $\overline{BD}$ is a diameter of the circle. If $m\overset{\frown}{AD} = 60$, what is $m\angle CDB$?



$\angle CDB = \frac{1}{2}(60)$

$\angle CDB = 30$

CLASSWORK: Page 681 #s 5, 6, 8, 13,
Page 685 #s 51 - 53

ANSWERS

5) $a = 58^\circ$ 6) $a = 180^\circ$

8) $a = 54^\circ$, $b = 30^\circ$, $c = 96^\circ$

13) $a = 50^\circ$, $b = 90^\circ$, $c = 90^\circ$

51) $x = 17.3$ 52) $x = 34.6$ 53) $x = 17.5$

February 27, 2013