

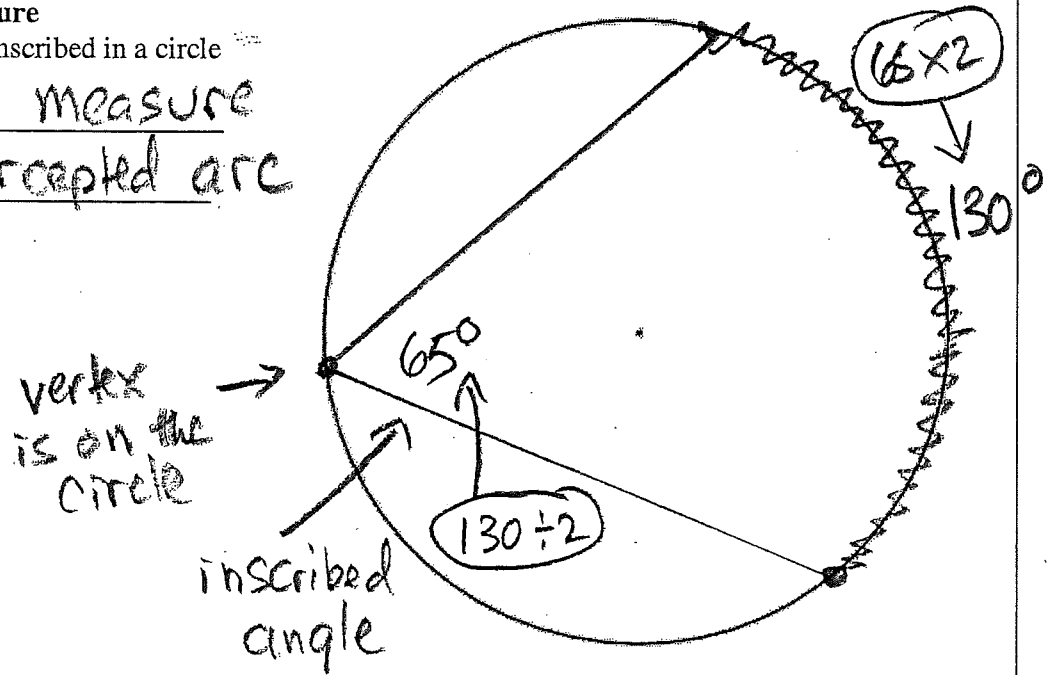
UNIT 6 Notes #4 Part A - Inscribed Angles

C-61 p.319

Inscribed Angle Conjecture

The measure of an angle inscribed in a circle

is half the measure of the intercepted arc

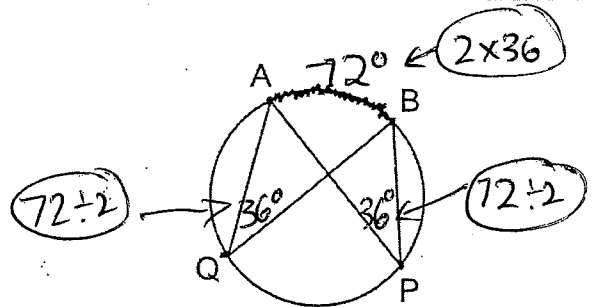


C-62 p.320

Inscribed Angles Intercepting Arcs Conjecture

Inscribed angles that intercept the same arc

are congruent

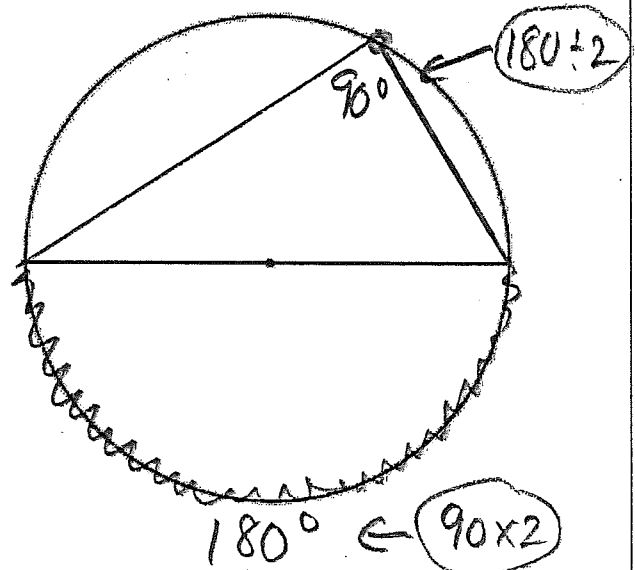


C-63 p.320

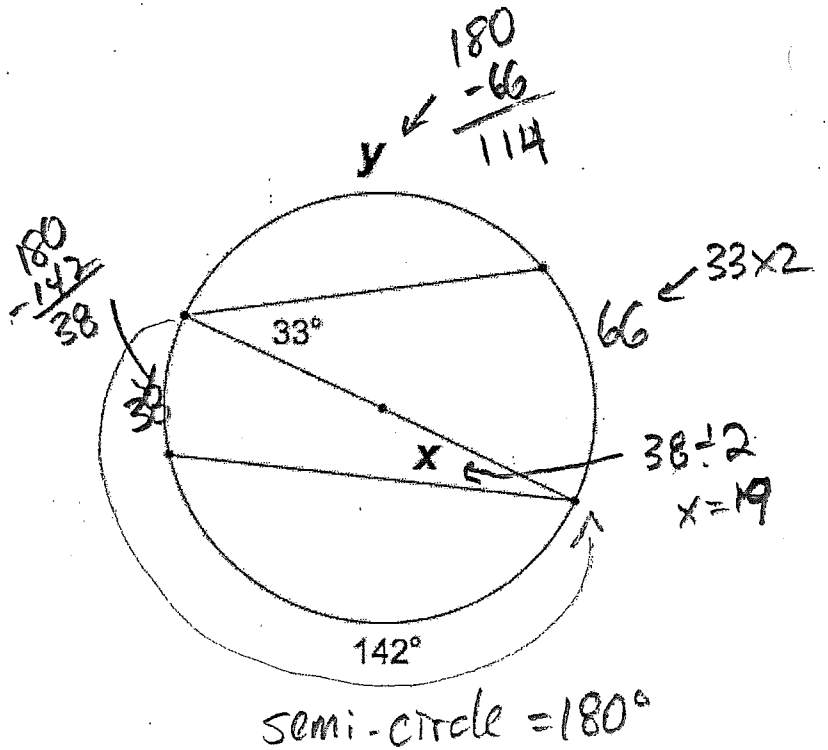
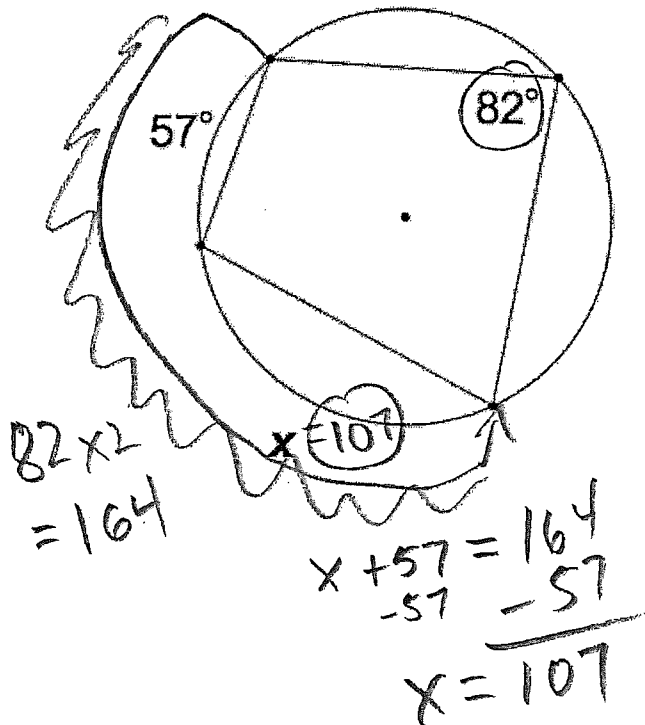
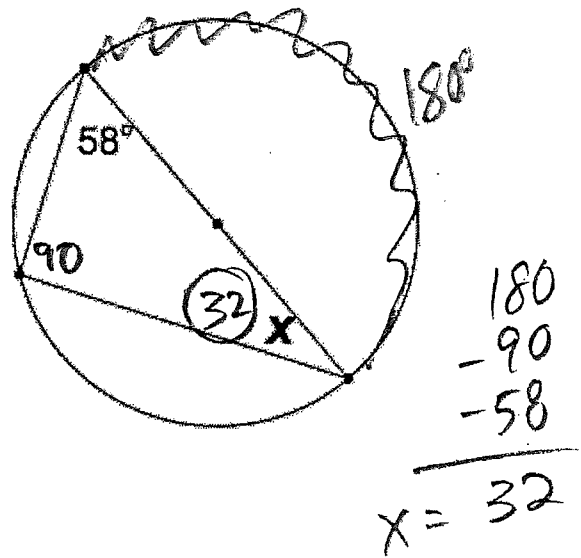
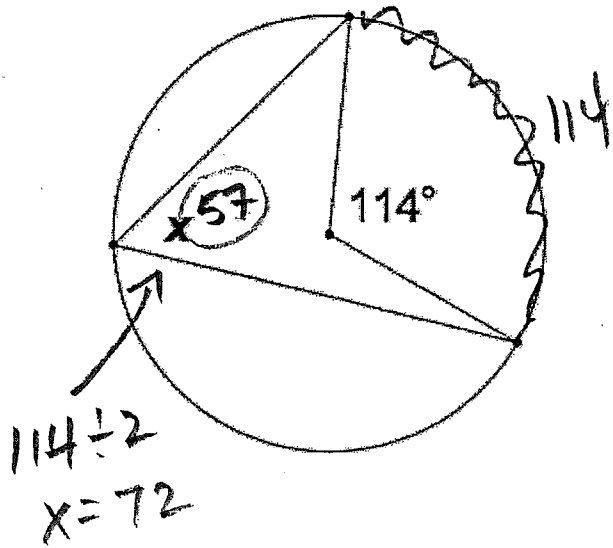
Angles inscribed in a Semi-Circle Conjecture

Angles inscribed in a semicircle

are right angles ( $90^\circ$ )



Examples:



UNIT 6 Notes #4 Part B - Cyclic Quadrilaterals and Parallel Lines

Definitions - p.321

A quadrilateral inscribed in a circle is called a

cyclic quadrilateral

A line that intersects a circle in two points is called a

secant line

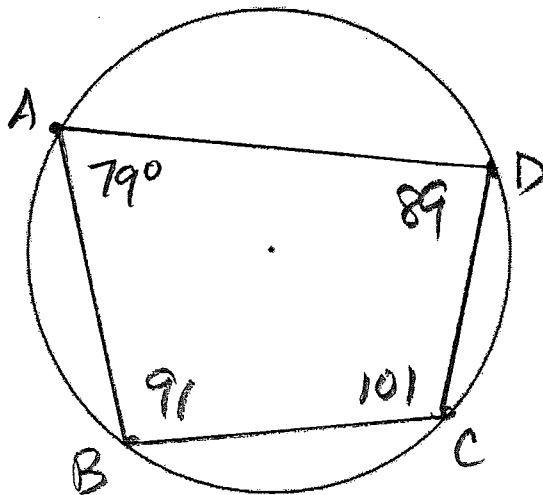
C-64 p.321

Cyclic Quadrilateral Conjecture

The opposite angles of a cyclic quadrilateral are supplementary (add up to  $180^\circ$ )

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

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

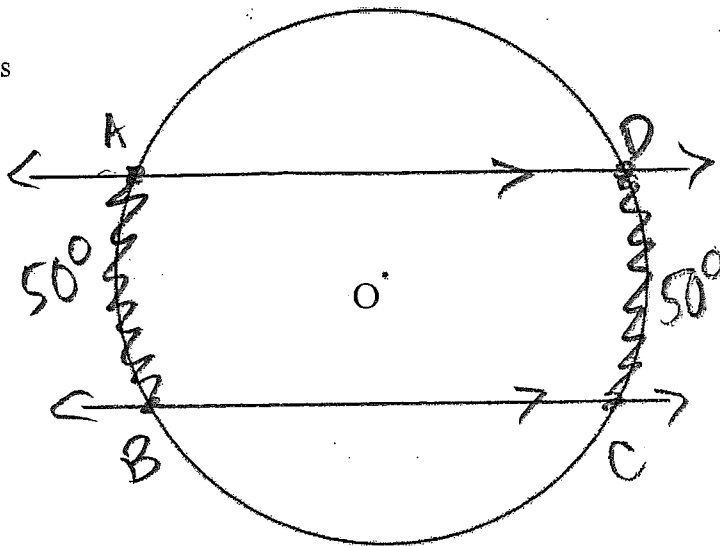


C-65 p.321

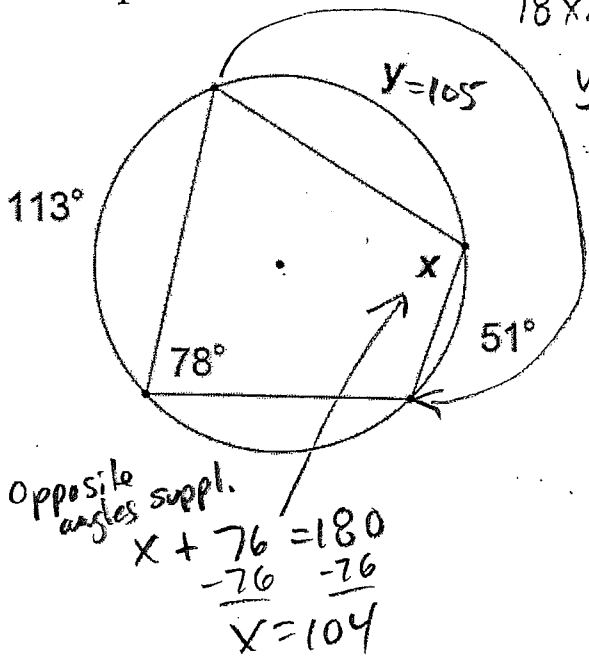
Parallel Lines Intercepted Arcs Conjecture

Parallel lines intercept congruent arcs on a circle.

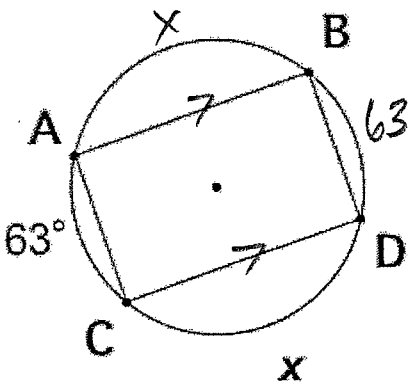
$$m\widehat{AB} = m\widehat{CD}$$



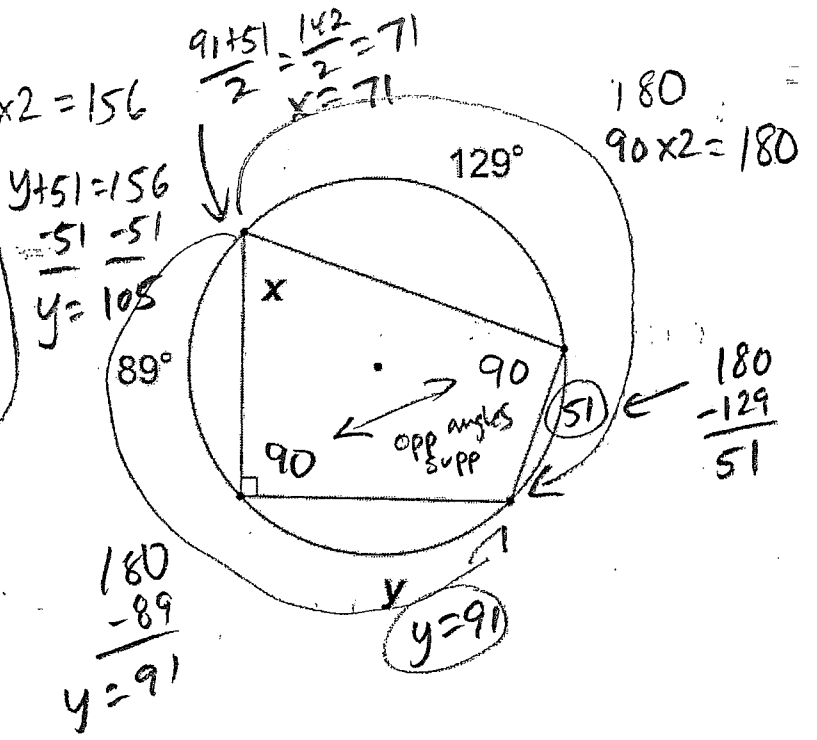
Examples



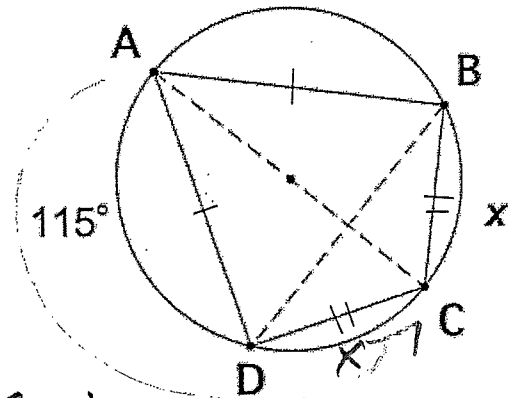
ABCD is a rectangle



$$\begin{array}{r} 360 \\ -63 \\ -63 \\ \hline 234 \div 2 = 117 \\ x = 117 \end{array}$$



ABCD is a kite



Semi-circle = 180

$$\begin{array}{r} x + 115 = 180 \\ -115 \quad -115 \\ \hline x = 65 \end{array}$$