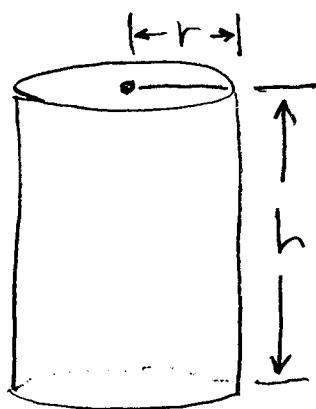


BE - Geometry 1 TUESDAY 2-1-11

- ① Find the surface area (exact) of the following right cylinder:



$$r = 8 \text{ inches}$$

$$h = 1.5 \text{ feet}$$

$$\text{Area of } \odot \Rightarrow \pi r^2 = 64\pi$$

$$\text{times 2} \Rightarrow \times 2$$

$$\text{Area of } \begin{array}{|c|} \hline 2\pi r = 16\pi \\ \hline 18\text{in} \\ \hline \end{array}$$

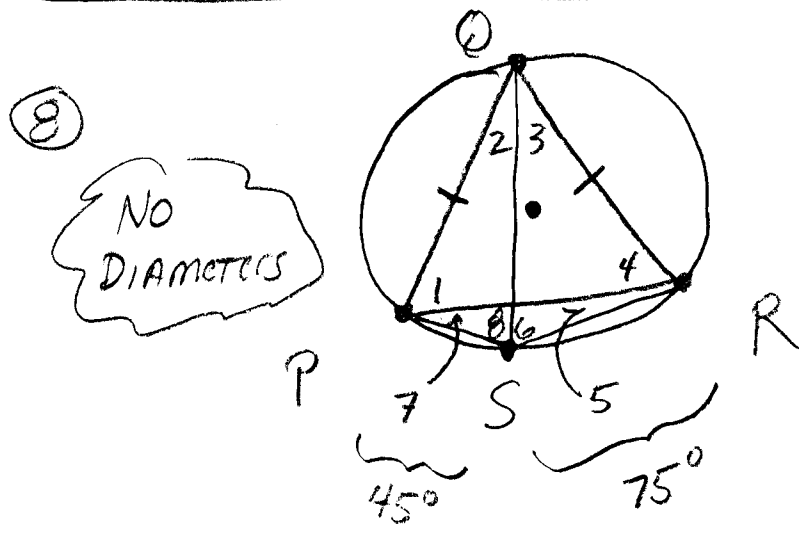
$$128\pi$$

$$\Rightarrow 288\pi$$

$$\boxed{416\pi \text{ in}^2}$$

$$\begin{array}{r} 16 \\ \times 18 \\ \hline 128 \\ 16 \\ \hline 288\pi \end{array}$$

Geometry 1 Homework Review - Pg 549, #8, 9, 13



GIVEN:

$$\overline{PQ} = \overline{RQ}$$

$$\therefore \angle 1 \cong \angle 4$$

$$m\widehat{PS} = 45^\circ$$

$$m\widehat{SR} = 75^\circ$$

$$m\widehat{PS} = 45^\circ \therefore m\angle 2 = 22.5^\circ$$

$$m\widehat{SR} = 75^\circ \therefore m\angle 3 = 37.5^\circ$$

$$\therefore m\angle PQR = 22.5 + 37.5 = 60^\circ$$

$$\text{Since } \angle 1 \cong \angle 4 \text{ and } \angle 1 + \angle 4 = 180 - 60 = 120$$

$$\therefore m\angle 1 = m\angle 4 = 60^\circ$$

$$m\widehat{PS} = 45^\circ \therefore m\angle 5 = 22.5^\circ$$

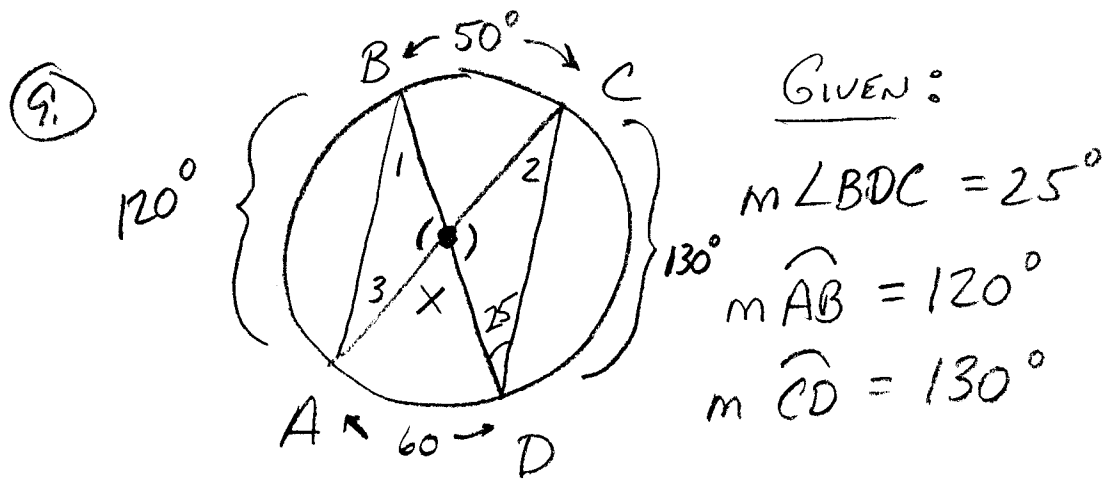
$$m\widehat{SR} = 75^\circ \therefore m\angle 7 = 37.5^\circ$$

$$m\widehat{QR} = 2(m\angle 1) = 2(60) = 120^\circ$$

$$\therefore \text{included angle 6} \Rightarrow \frac{120}{2} = 60^\circ = m\angle 6$$

$$m\widehat{QP} = 2(m\angle 4) = 2(60) = 120^\circ$$

$$\therefore \text{included angle 8} \Rightarrow \frac{120}{2} = 60^\circ = m\angle 8$$



Point X is NOT A CENTER!

Since $m\angle BDC = 25^\circ$, $m\widehat{BC} = 50^\circ$

$$\therefore m\widehat{AD} = 360 - [120 + 50 + 130] = 60^\circ$$

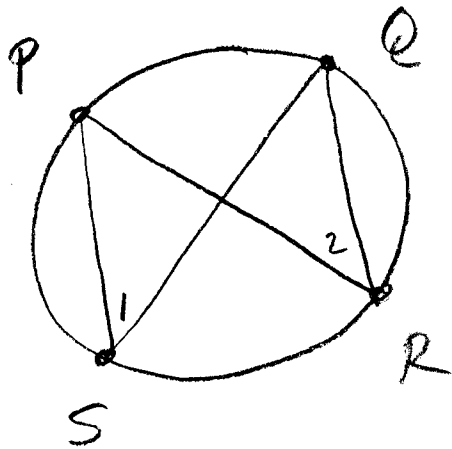
$$\therefore m\angle 1 = \frac{60}{2} = \boxed{30^\circ = m\angle 1}$$

$$m\angle 2 = \frac{60}{2} = \boxed{30^\circ = m\angle 2}$$

$$\therefore m\angle CXD = 180 - [30 + 25] = 125^\circ$$

$$\therefore m\angle 3 = 180 - [125 + 30] = \boxed{25^\circ = m\angle 3}$$

13



GIVEN:

$$m\angle 1 = x$$

$$m\angle 2 = 2x - 13$$

Since both $\angle 1$ and $\angle 2$ intercept

$$\widehat{PQ}, \angle 1 \cong \angle 2$$

$\therefore$

$$x = 2x - 13$$

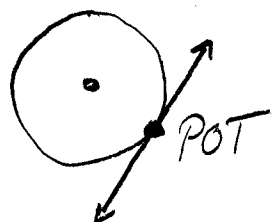
$$13 = x$$

$$\therefore m\angle 1 = 13^\circ$$

$$m\angle 2 = 2(13) - 13 = 13^\circ$$

Ch. 10-5 Tangents

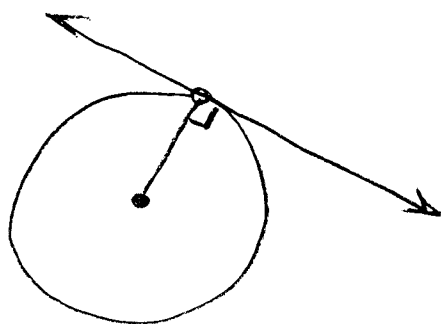
tangent A line intersecting a circle
at exactly one point.



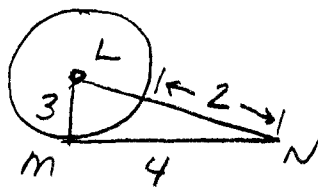
The point is called the
"point of tangency."

Theorem 10.9

If a line is tangent to a circle,
it is perpendicular to the radius
drawn to the Point of Tangency



Ex 2A pg 553 Is $\overline{MN}$ tangent to $\odot L$

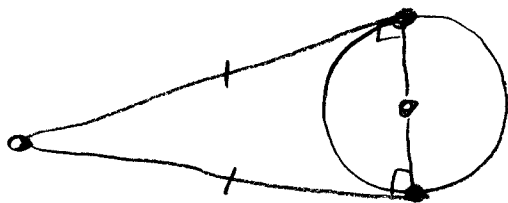


$$\left. \begin{array}{l} \text{Since } \overline{LN} = 3 + 2 = 5 \\ \overline{LM} = 3 \\ \overline{MN} = 4 \end{array} \right\} \begin{array}{l} 3^2 + 4^2 = 5^2 \\ m\angle LMN = 90^\circ \checkmark \text{Tangent.} \end{array}$$

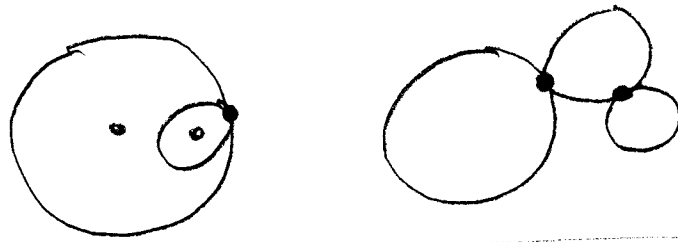
Do NOT ASSUME A line is tangent
(UNLESS TOLD)
by its appearance. Either a radius
is marked $\perp$ AT the POT or
the measurements confirm a right Δ .

Theorem 10.11

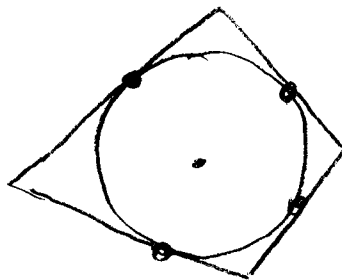
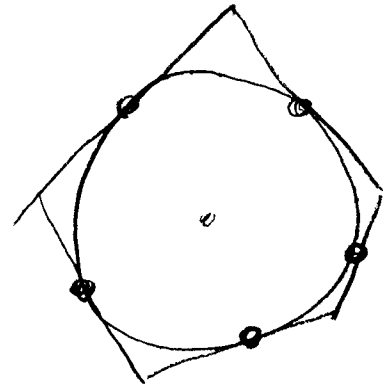
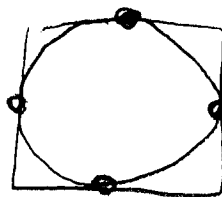
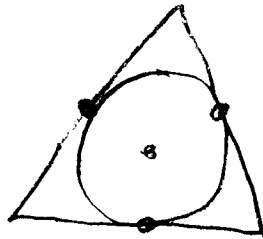
IF MORE THAN ONE line from
the same exterior point is
tangent to A circle, the lines
ARE congruent



Circles can be tangent to other circles.

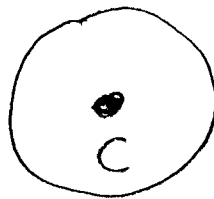


Circumscribed polygons must have every side tangent to the inscribed circle.



Construction: A line tangent to a circle through some point EXTERIOR TO the circle. (Pg 554)

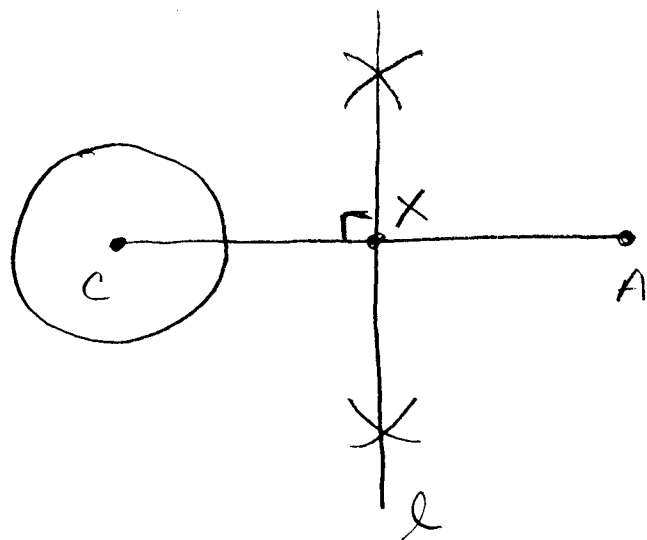
- ① Construct A circle, label the center C



- ② Draw point A outside circle C then draw $\overline{CA}$

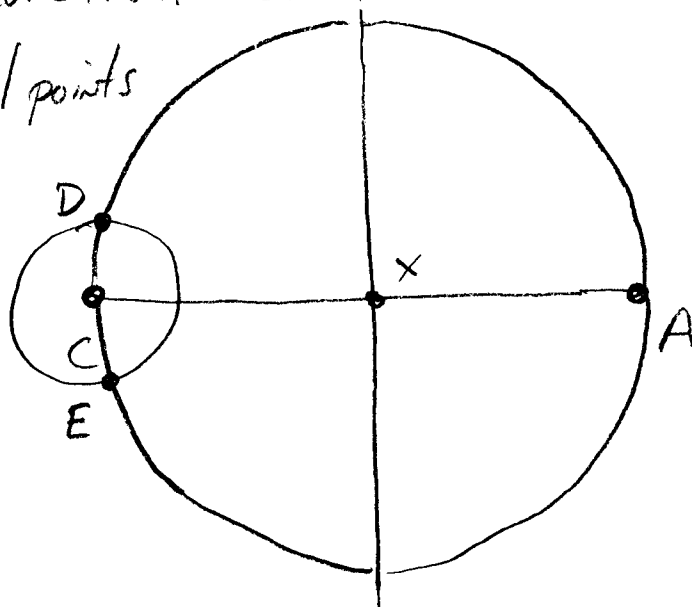


- ③ Construct the perpendicular bisector of $\overline{CA}$ and label it line l . Label the point of intersection of l and $\overline{CA}$ as point X .

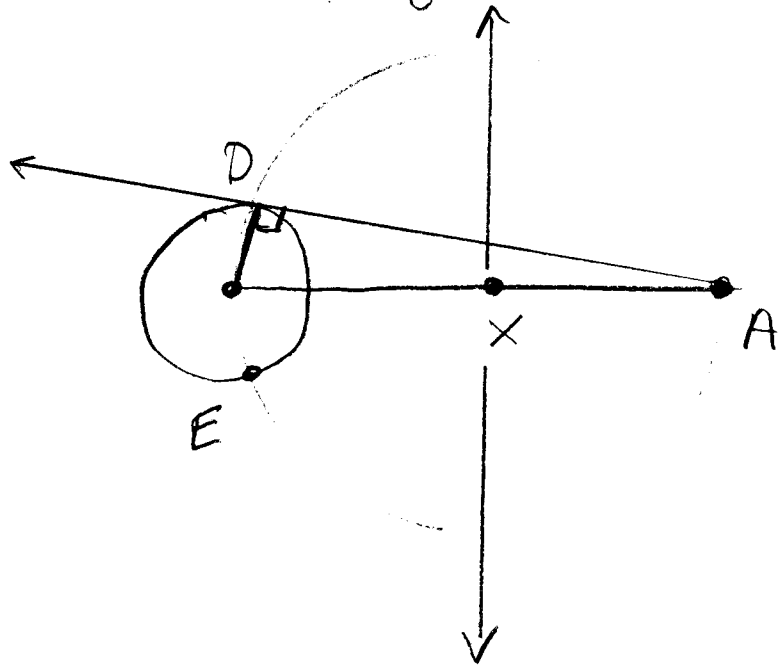


- ④ Construct circle X with radius XC

Label points
where
circles
intersect
as
D, E



- ④ Draw tangent line $\overline{AD}$.
 $\triangle ADC$ is inscribed in a semicircle
so $\angle ADC$ is a right angle $\therefore \overline{AD}$
is a tangent.



Homework: Pg 556 # 8, 9, 12, 14, 15
Pg 557 # 29, 30.