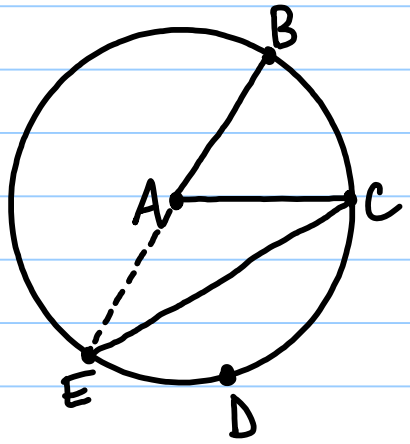
3/5 MON

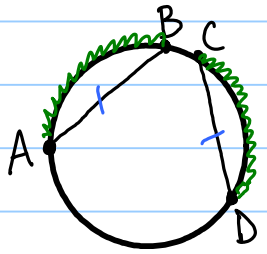
11.3] Arcs and Chords



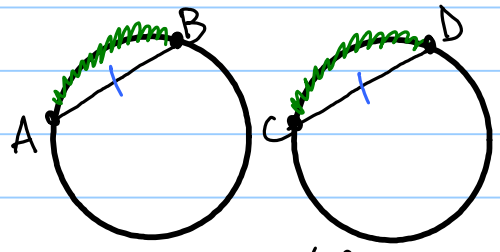
$\odot A$, radii: $\overline{AB}, \overline{AC}, \overline{AE}$, diameter $\overline{BE}$,
chord $\overline{CE}$, central $\angle$: $\angle BAC$, etc...,
minor arc: $\overset{\frown}{BC}, \overset{\frown}{CD}, \overset{\frown}{ED}$
major arc: $\overset{\frown}{BED}, \overset{\frown}{BEC}$, etc...

central $\angle$ intercepts $\overset{\frown}{BC}$

Theorem 11.4



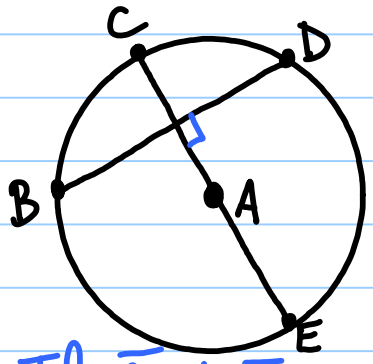
OR



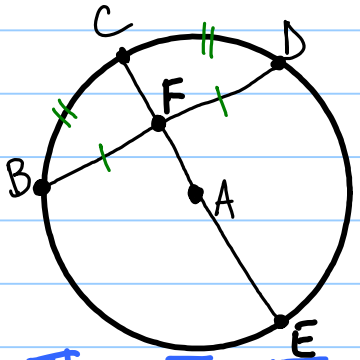
$\overline{AB} \cong \overline{CD}$ iff $\overset{\frown}{AB} \cong \overset{\frown}{CD}$
chords ⟷ minor arcs

* Both $\odot$'s $\cong$

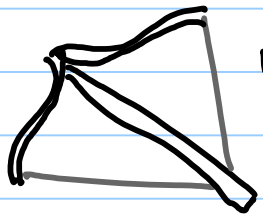
Theorem 11.5



If $\overline{CE} \perp \overline{BD}$
diameter chord

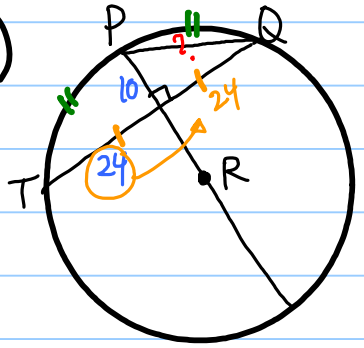


Then $\overline{BF} \cong \overline{FD}$ & $\overset{\frown}{BC} \cong \overset{\frown}{CD}$



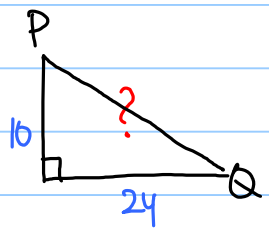
"Crossbow"

ex 1)



In $\odot R$, if $\overline{PR} \perp \overline{QT}$, find PQ.

*Thm 11.5



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

$10^2+24^2=c^2$

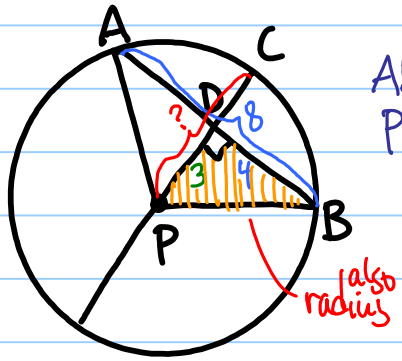
$100+576=c^2$

$676=c^2$

$\sqrt{676}=c$

$26=c$

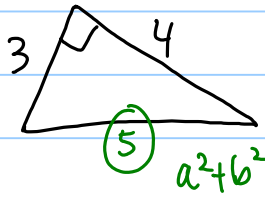
Your Turn



$AB=8$

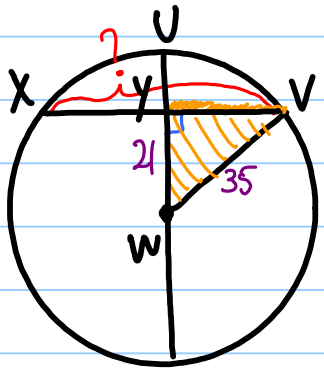
$PD=3$

Find PC (radius)

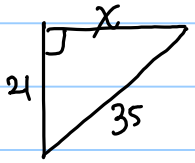


$a^2+b^2=c^2$

ex 2)



Find XV, given $WY=21$, $WV=35$.



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

$21^2+x^2=35^2$

$441+x^2=1225$

$-441 \quad -441$

$x^2=784$

$x=\sqrt{784}=28$

$XV=2(YV)=2(28)=56$