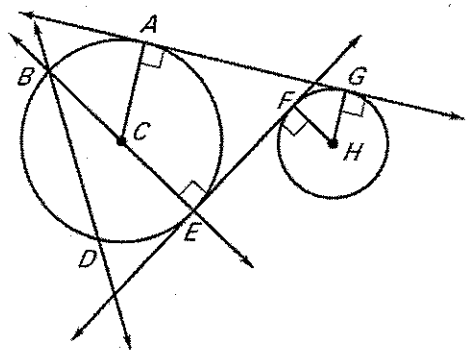
Geometry
Review 10.1-10.3

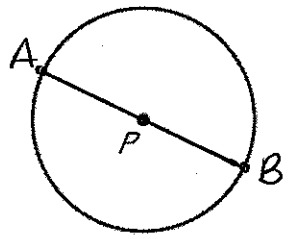
Name Key

Use this figure to answer questions #1-7.

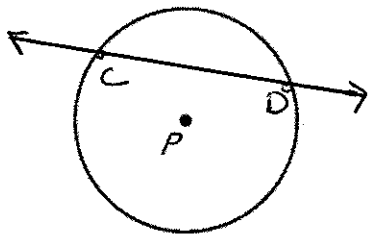


1. List all the **radii** shown in the figure.
   $\overline{CA}$ $\overline{CB}$ $\overline{CE}$ $\overline{HF}$ $\overline{HG}$
2. How many **diameters** are shown?
   1 ($\overline{BE}$)
3. What is the best name for $\overline{EF}$? Common Tangent
4. What is the best name for G? Point of Tangency
5. Name a **chord** that is not a diameter. $\overline{BD}$
6. Name a **secant**. $\overleftrightarrow{BD}$
7. Explain the difference between a **secant** (line) and a **chord**. (Segment) Give an example. $\overline{BD}$ is a chord $\overleftrightarrow{BD}$ is a secant

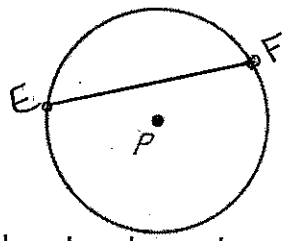
8. Draw a diameter and label it $\overline{AB}$.



9. Draw a secant and label it $\overline{CD}$.



10. Draw a chord and label it $\overline{EF}$.



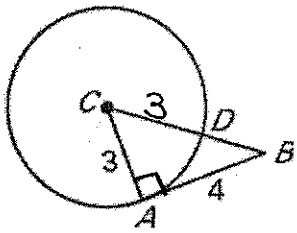
Is the chord you drew a diameter? No

11. In circle C A is a point of tangency. Find DB.

$3^2 + 4^2 = CB^2$
$9 + 16 = CB^2$
$25 = CB^2$
$\pm 5 = CB$

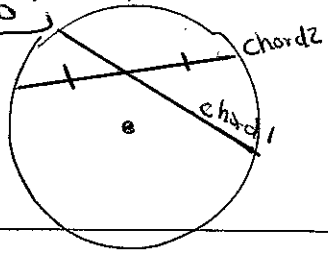
$BC = 5$

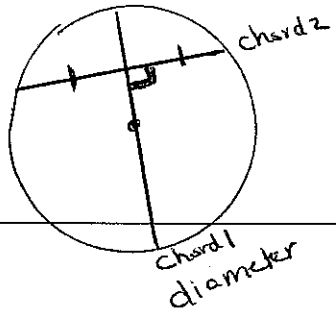
$BC - CD = DB$
$5 - 3 = DB$
$2 = DB$



12. If chord 1 bisects chord 2 is chord 1 a diameter? (No) If your answer is no, what would make it a diameter? Draw a picture to demonstrate.

the chord must be a perpendicular bisector





13. Use the given circle and list all of the measures of all of the minor arcs.

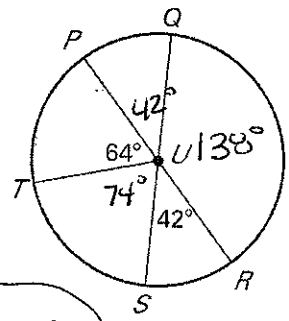
Are you sure you found them all?

$m\overset{\frown}{PQ} = 42°$ $m\overset{\frown}{QR} = 138°$

$m\overset{\frown}{PT} = 64°$ $m\overset{\frown}{QT} = 106°$

$m\overset{\frown}{TS} = 74°$ $m\overset{\frown}{PS} = 138°$

$m\overset{\frown}{SR} = 42°$ $m\overset{\frown}{TR} = 116°$



14. Name one major arc and give its measure. $m\overset{\frown}{QSR} = 222°$

15. In the diagram below, $\overline{CD}$ is a diameter of $\odot O$ and is perpendicular to $\overline{AB}$. If $AB = 12$ and $CE = 2$, what is the radius of $\odot O$?

$x^2 + 6^2 = (x+2)^2$

$x^2 + 36 = x^2 + 4x + 4$

$32 = 4x$

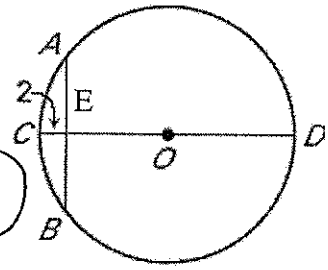
$\boxed{8 = x}$

$OA = x + 2$

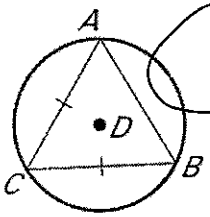
$= 8 + 2$

$= 10$

Radius of $\odot O = 10$



16. What conclusion can you make about arc BC?

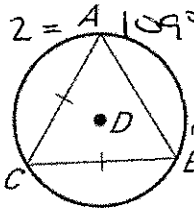


$\overset{\frown}{BC} \cong \overset{\frown}{AC}$

17. What conclusion can you make about arc BC?

$360 - 142 = 218$

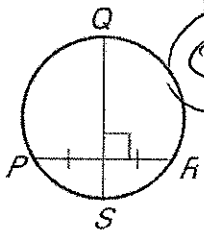
$218 \div 2 = 109°$



$\overset{\frown}{BC} \cong \overset{\frown}{AC}$

$m\overset{\frown}{BC} = 109°$

18. What conclusion can you make about $\overline{QS}$?

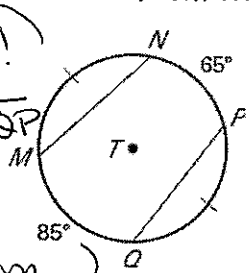


QS is a diameter

19. Is there enough information to show that the chords are equidistant from the center? Explain. Yes!

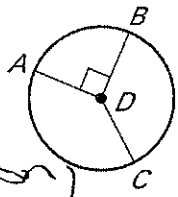
$\overset{\frown}{MN} \cong \overset{\frown}{QP}$ $\therefore \overline{MN} \cong \overline{QP}$

Since the chords are $\cong$ they must be equidistant from the center.



20. Can you conclude that arc BC is congruent to arc AC? Explain.

No... there is not enough information

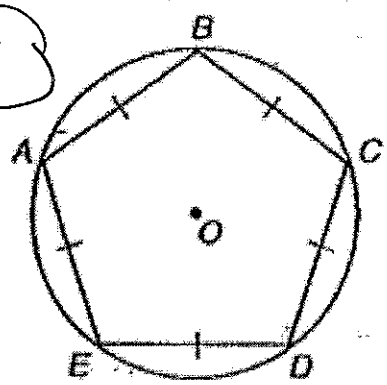


Use the given pictures to find the requested information.

21. Find the measure of arc BC.

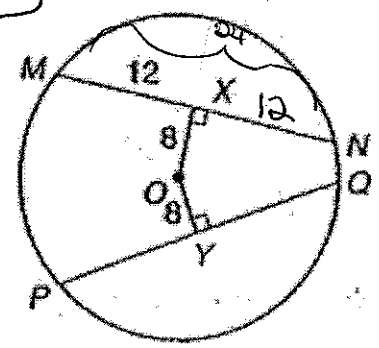
$360° \div 5 = 72°$

$m\overset{\frown}{BC} = 72°$



22. Find YQ.

$YQ = 12$

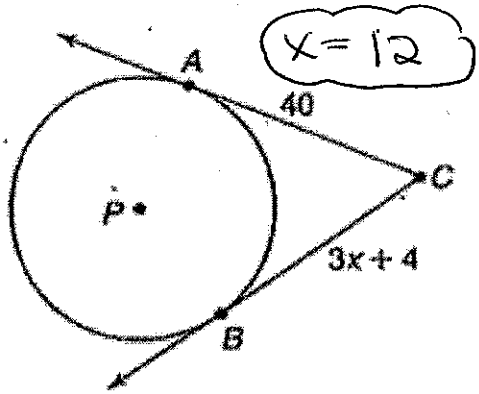


23. Find x.

$3x + 4 = 40$

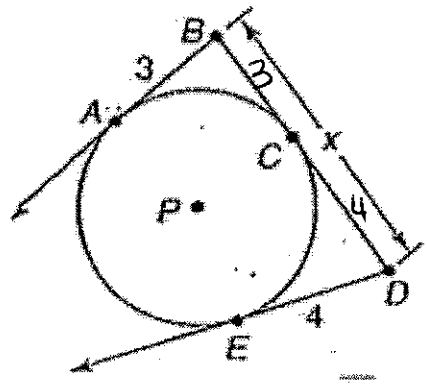
$3x = 36$

$x = 12$



24. Find x.

$x = 7$



25. CE = 2 and PD = 5. Find AB.

$3^2 + EB^2 = 5^2$

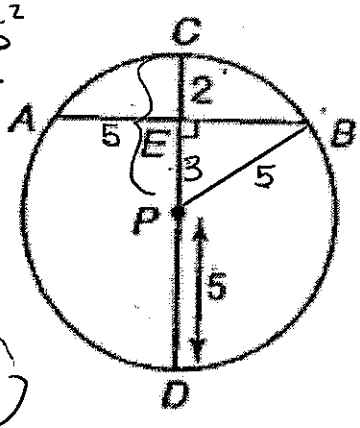
$9 + EB^2 = 25$

$EB^2 = 16$

$EB = \pm 4$

$EB = 4$

$AB = 8$



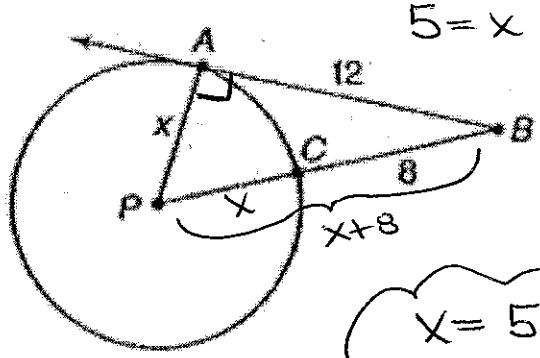
26. Find x.

$x^2 + 12^2 = (x+8)^2$

$\cancel{x^2} + 144 = \cancel{x^2} + 16x + 64$

$80 = 16x$

$5 = x$



$x = 5$