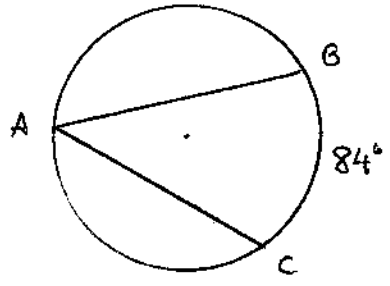
Geometry, Ch 10-4 Exer., pg 666 #3-8, 10-15, 29

Find the indicated measure.

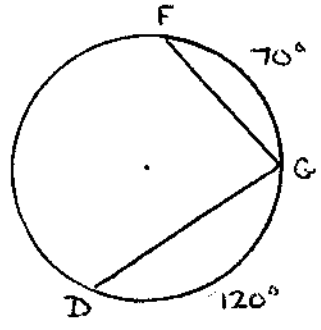
3. $m\angle A$



$2\, m\angle A = 84°$

$\boxed{m\angle A = 42°}$

4. $m\angle G$



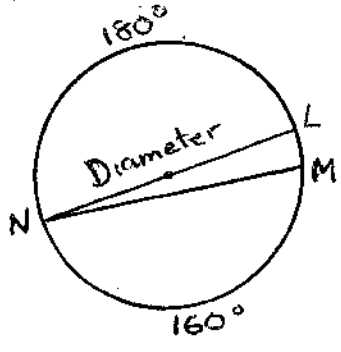
$\overset{\frown}{FD} + 70 + 120 = 360$

$\overset{\frown}{FD} = 170°$

$2\, m\angle G = 170°$

$\boxed{m\angle G = 85°}$

5. $m\angle N$



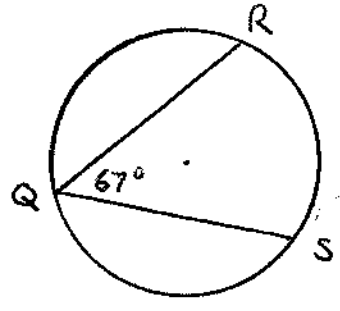
$180 + 160 + \overset{\frown}{LM} = 360°$

$\overset{\frown}{LM} = 20°$

$2\, m\angle N = 20°$

$\boxed{m\angle N = 10°}$

6. $m\overset{\frown}{RS}$

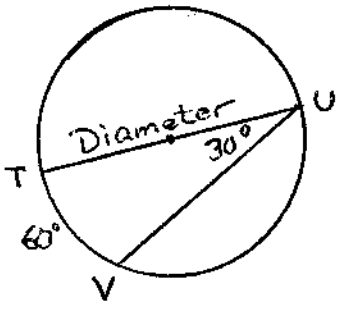


$2\, m\angle Q = \overset{\frown}{RS}$

$2(67) = \overset{\frown}{RS}$

$\boxed{134° = \overset{\frown}{RS}}$

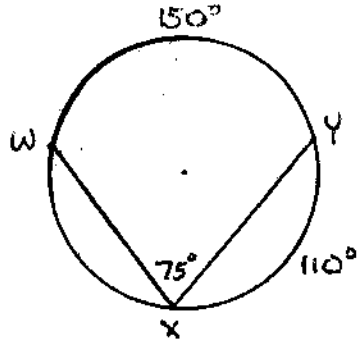
7. $m\overset{\frown}{VU}$



$60° + \overset{\frown}{VU} = 180°$

$\overset{\frown}{VU} = 120°$

8. $m\overset{\frown}{WX}$



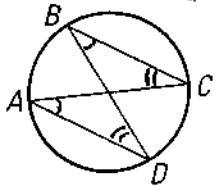
$\overset{\frown}{WX} + 150 + 110 = 360$

$WX = 100°$

Name two pairs of congruent angles.

Which angles intercept the same, or congruent, arcs of the circle?

10.

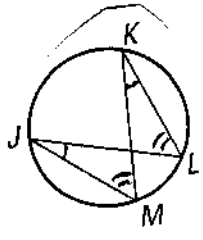


$\angle CBD \cong \angle CAD$

$\angle ACB \cong \angle ADB$

[Also $\angle BAC \cong \angle BDC$... others?]

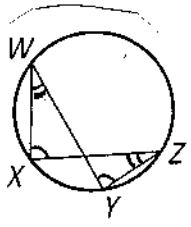
11.



$\angle LKM \cong \angle LJM$

$\angle JMK \cong \angle JLK$

12.

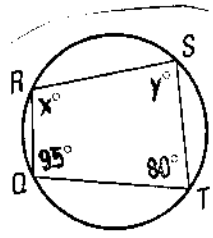


$\angle WXZ \cong \angle WYZ$

$\angle XWY \cong \angle XZY$

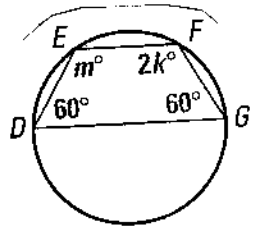
Opposite angles of an inscribed quadrilateral are supplementary

Find the value of the variables.

13. 

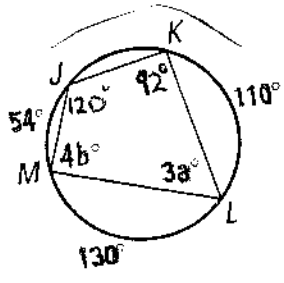
$x + 80 = 180$
$x = 100$

$y + 95 = 180$
$y = 85$

14. 

$2k + 60 = 180$
$2k = 120$
$k = 60$

$m + 60 = 180$
$m = 120$

15. 

$2\,m\angle K = 54 + 130$
$2\,m\angle K = 184$
$m\angle K = 92°$

$2\,m\angle J = 130 + 110$
$2\,m\angle J = 240$
$m\angle J = 120°$

$4b + 92 = 180$
$4b = 88$
$b = 22$

$120 + 3a = 180$
$3a = 60$
$a = 20$

29. A right triangle is inscribed in a circle and the radius is given. Explain how to find the length of the hypotenuse.

The right angle of the right triangle is 90°. Its intercepted arc would be 180°, or a semi-circle. The chord of a semi-circle is the circle's diameter. So... double the given radius, and you have the diameter; and if you know diameter, you know hypotenuse.