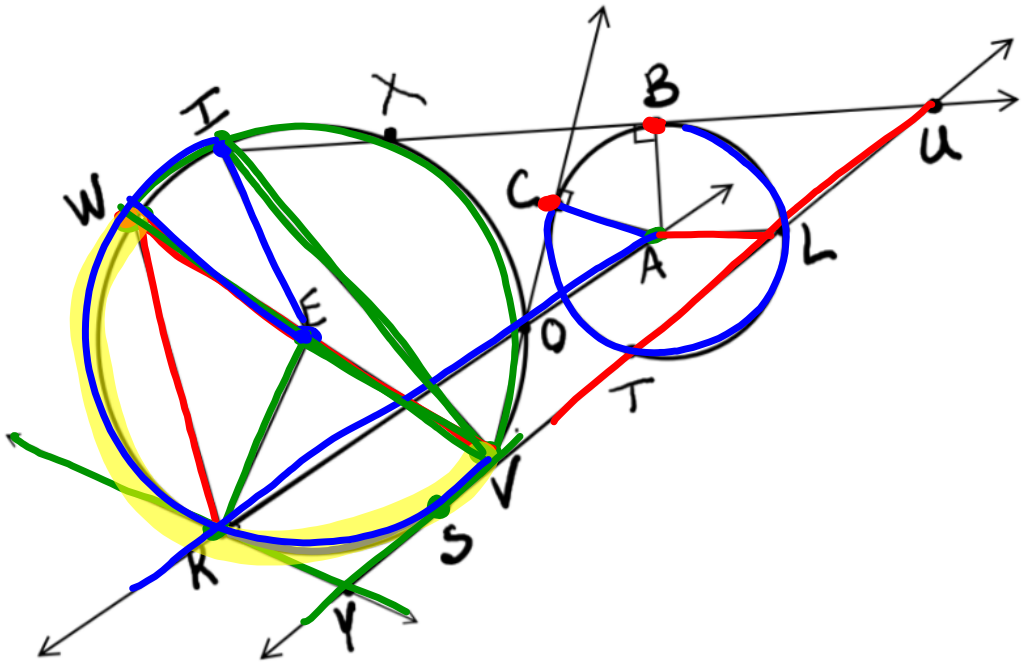
Circles Vocabulary Quiz Review Name_____ Date _____



Using the above image., determine the best name/term for each of the following.

1. $\overline{WV}$ diameter
2. $\overleftrightarrow{RY}$ tangent
3. E center
4. B Point of tangency
5. $\overset{\frown}{WIV}$ semi-circle
6. $\overset{\frown}{RV}$ minor
7. $\overleftrightarrow{UT}$ Secant
8. $\overline{VI}$ chord
9. $\overline{IE}$ radius
10. $\angle RWV$ inscribed angle
11. $\angle REV$ Central angle
12. $\overset{\frown}{CLB}$ major arc
13. $\overset{\frown}{VRW}$ semi-circle
14. R point of tangency
15. $\overline{AC}$ radius
16. $\overline{RW}$ chord
17. A center
18. $\overleftrightarrow{RA}$ Secant
19. $\overline{AL}$ radius
20. $\angle WVI$ inscribed angle
21. $\angle IEW$ central angle
22. C Point of tangency
23. $\overleftrightarrow{SY}$ to $\odot E$ tangent
24. $\overset{\frown}{VRI}$ major arc

1. A line that passes through the circle and touches in exactly two points.

Secant

2. The chord that is twice the length of the radius.

diameter

3. A line segment whose end points lie on the circle.

chord

4. Circles that have the same center but different length radii.

Concentric

5. A line that touches a circle in exactly one point.

tangent

6. An arc that equals 180 degrees.

Semi-circle

7. A point that lies inside the circle.

center

8. The place where a tangent line touches a circle.

point of tangency

9. Set of all points equidistant from the center

circle

10. The distance a point on a circle lies from the center.

radius

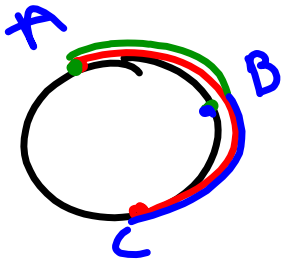
11. The vertex of this type of angle is at the point used to name a circle.

central angle

12. States that the sum of two consecutive arcs is equal to 1 larger arc.

Arc Addition Postulate

13. A point that lies outside of a circle.

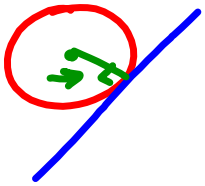


14. Angle formed between a tangent line and a radius.

Right Angle

15. A type of angle whose vertex is on the circle.

Inscribed angle



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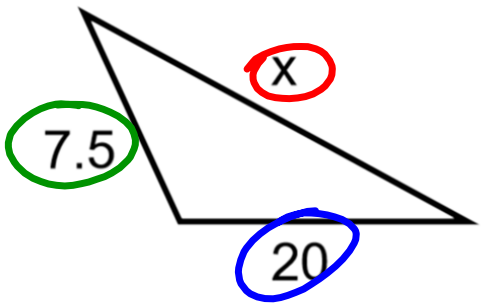
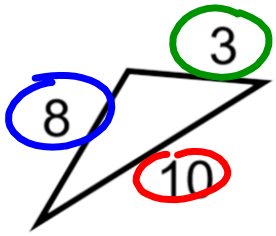
The following triangles are similar.





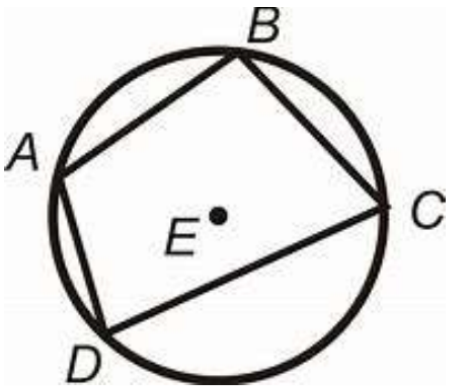
$\frac{20}{8} = \frac{7.5}{3} = \frac{x}{10}$

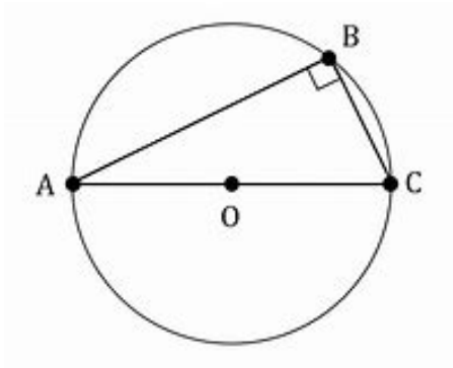
$75 = 3x$

$x = 25$

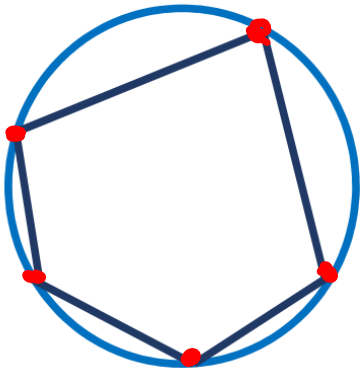
What is the value of x?

Inscribed Quadrilaterals and Right Triangles





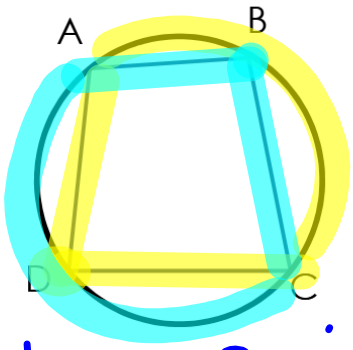
If all the vertices of a polygon touch the edge of the circle, the polygon is inscribed and the circle is circumscribed.



A circle can be circumscribed around a quadrilateral if and only if its opposite angles are supplementary.

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

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



Explain why.

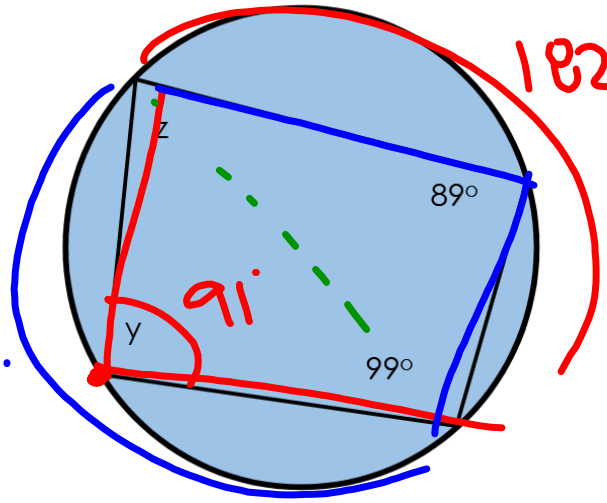
all arcs add to 360

Inscribed angles are half of arcs

Inscribed angles add to 180°

Example 1

Find the value of y and z.



$360 - 178 = 182$

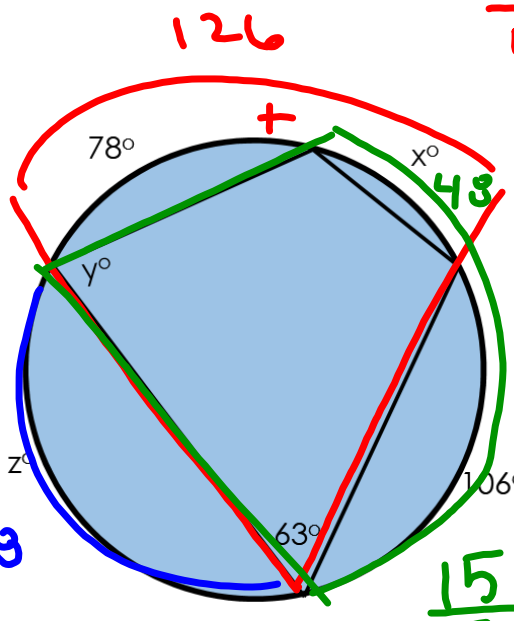
$y = 91$

$z = 180 - 99$

$z = 81$

Example 2

Find the value of x, y, and z.



$x = 48°$

$y = 77°$

$z = 128°$

$360 - 78 - 48 - 106 = 128°$

$126 + x$

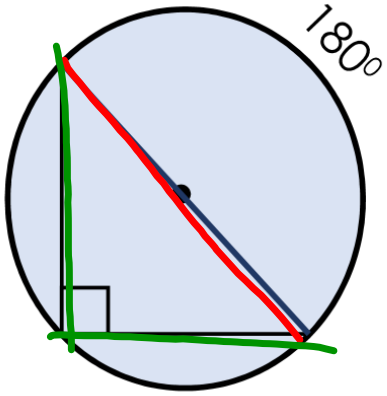
$126 - 78 = 48°$

128

$154 \div 2 = 77$

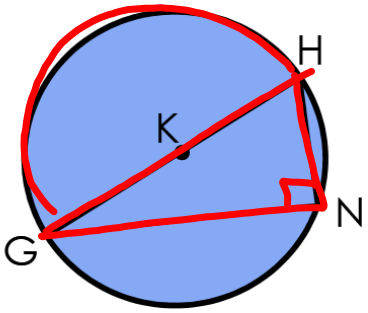
$y = 77$

If a right triangle is inscribed in a circle, then the *hypotenuse* is the diameter of the circle.



Example 10

In ⊙K, $m\angle GNH = 4x - 14$ and $\overline{GH}$ is a diameter. Find the value of x.



$4x - 14 = 90$

$+14 \quad +14$

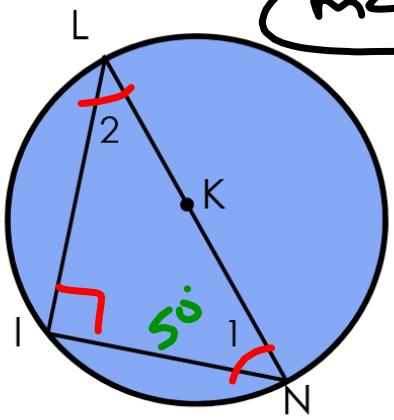
$\frac{4x}{4} = \frac{104}{4}$

$x = 26$

Example 11

In ⊙K, $m\angle 1 = 6x - 16$ and $m\angle 2 = 3x + 7$ and $\overline{LN}$ is a diameter.

Find the value of x and each angle measure.



Triangle Sum Thm.

$6x-16 + 3x+7 + 90 = 180$

$9x + 81 = 180$

$-81 \quad -81$

$\frac{9x}{9} = \frac{99}{9}$

$x = 11$

$m\angle 1 = 6(11) - 16$

$m\angle 1 = 66 - 16$

$m\angle 1 = 50$

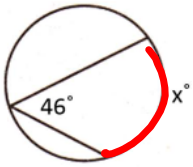
$m\angle 2 = 40°$

Geometry Name_____

Inscribed Angles: Quadrilaterals and Triangles Date_____ Block___

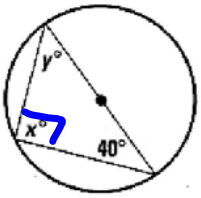
Find the value of each variable.

1.



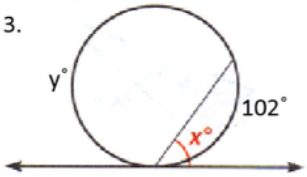
x = 92°

2.



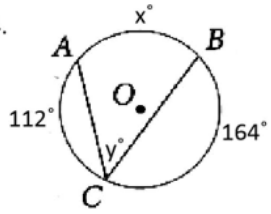
x = 90 y = 50°

3.



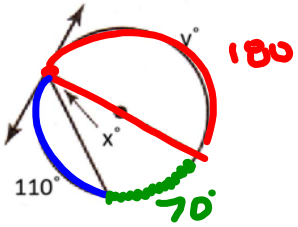
x = _____ y = _____

4.



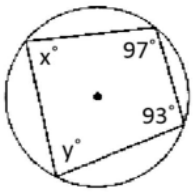
x = _____ y = _____

5.



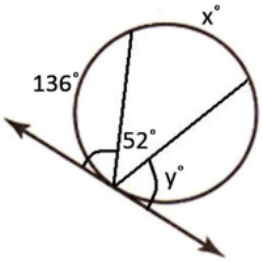
x = 35° y = 180°

6.



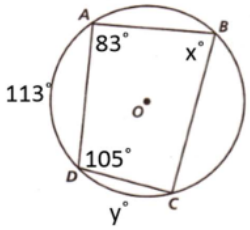
x = _____ y = _____

7.



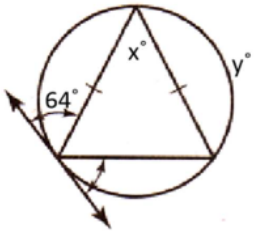
x = _____ y = _____

8.



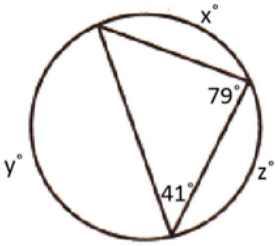
x = _____ y = _____

9.



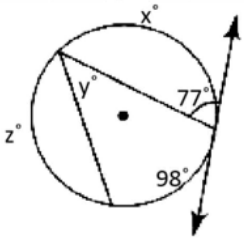
x = _____ y = _____

10.



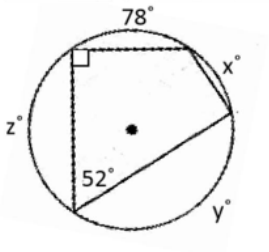
x = _____ y = _____ z = _____

11.



x = _____ y = _____ z = _____

12.



x = _____ y = _____ z = _____

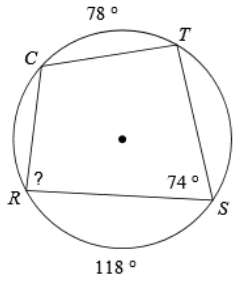
Geometry Name_____

Inscribed Quadrilaterals and Triangles

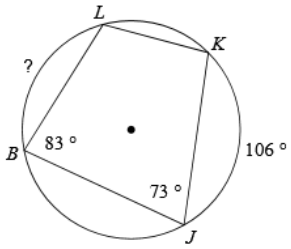
Date_____ Period____

Find the measure of the arc or angle indicated.

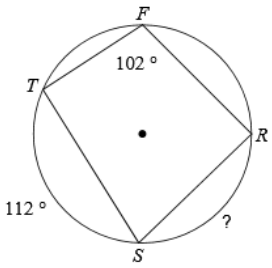
1)



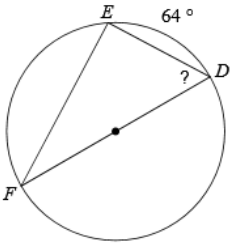
2)



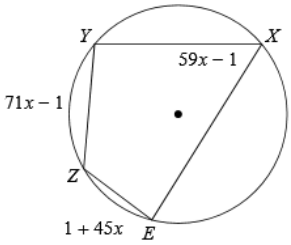
3)



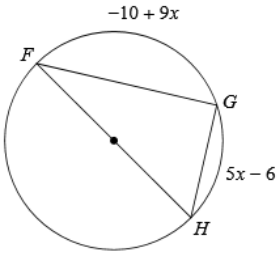
4)



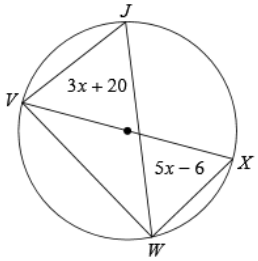
5) Find $m\angle EXY$



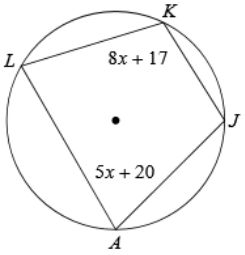
6) Find $m\angle HFG$



7) Find $m\widehat{WV}$



8) Find $m\widehat{LJ}$



Answers to Inscribed Quadrilaterals and Triangles

1) 86°	2) 86°	3) 92°	4) 58°
5) 58°	6) 32°	7) 118°	8) 150°