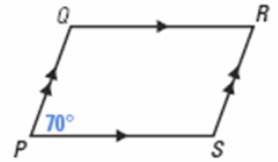


1) Given PQRS is a parallelogram, find the measure of angle $\angle PSR$. Explain how you know.



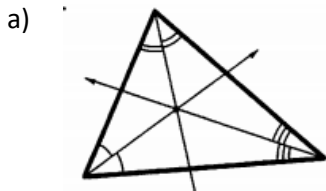
If a quadrilateral is a parallelogram, then	Correct?
Each diagonal divides the parallelogram into two congruent triangles	T or F
Opposite angles are congruent	T or F
Consecutive angles are supplementary	T or F
The diagonals are congruent	T or F
The diagonals bisect each other	T or F
The diagonals are perpendicular	T or F

3) Use the word bank to fill in the following blanks. You will not use all of the words and you may use words more than once.

Word Bank:

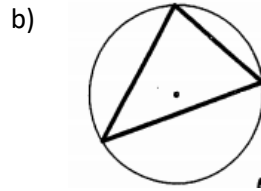
Incenter	Circumcenter	Centroid	Vertex
Side	Gravity	Medians	Perpendicular Bisectors
Circumscribed	Inscribed	Angle Bisectors	Triangle

- a) The angle bisectors of a triangle intersect at the _____. This point is equidistant to each _____ of the triangle, and is the center of a(n) _____ circle.
- b) Perpendicular bisectors meet at the _____. This point is equidistant to each _____ of the triangle, and is the center of a _____ circle.
- c) The point of concurrency for the medians of a triangle is called the _____. It is the center of _____ for a triangle. It divides the _____ into two segments whose lengths are in a ratio of 2:1.
- 4) Name the type of center of the triangle shown in the diagrams below. Explain how you know.



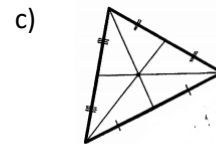
Name:

Explanation:



Name:

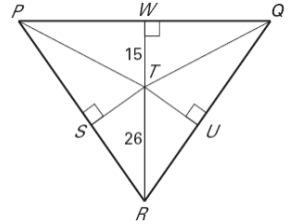
Explanation:



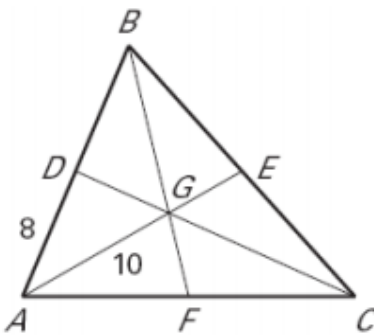
Name:

Explanation:

- 5) Point T is the incenter of $\triangle PQR$.
If $UR = 2y$, find y . Show your work or explain your reasoning.



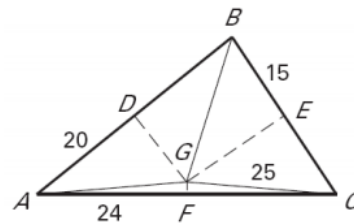
- 6) Point G is the centroid of $\triangle ABC$.
- If $AD=8$, $AG=10$, $BE=10$, $CD=18$ and $AC=16$, find the length of each segment.
Show your work or explain your reasoning.



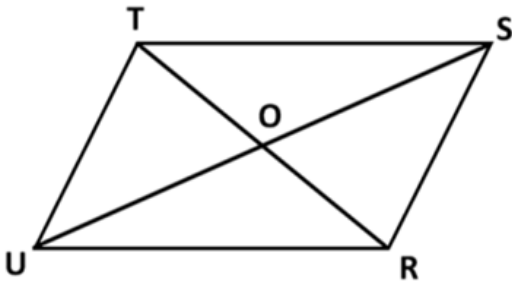
- DB = _____
CG = _____
GE = _____
BC = _____
EA = _____
BA = _____
GD = _____
AF = _____

- 7) Point G is the circumcenter of $\triangle ABC$.

If $GE = 2x - 15$, find x . Show your work or explain your reasoning.



- 8) RSTU is a parallelogram. $RO = y + 3$; $SU = 4x$; $TO = 3y - 7$; $UO = x + 5$. Find x and y .
Show your work or explain your reasoning.



- 9) Write the formula for each:

a) Area of a circle = _____ b) Circumference of a Circle = _____

- 10)

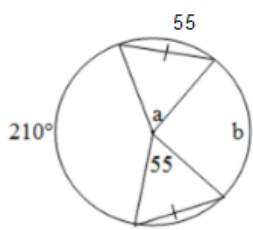
a) Ratio for finding Sector Area:

b) Ratio for finding Length of an Arc:

c) Ratio for a Central Angle in Degrees:

d) Ratio for a Central Angle in Radians:

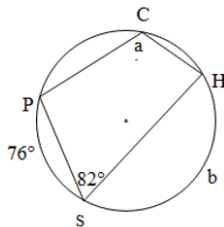
11) a) Find the measure of angle a and arc b.



a =

b =

b) Find the measure of angle a and arc b.



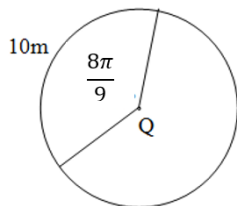
a =

b =

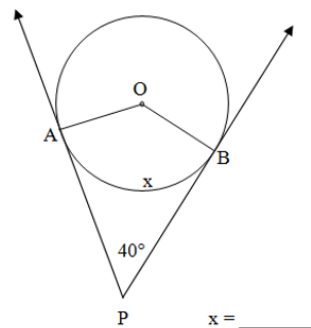
12) When assembling a chair like that shown here, the legs of the chair, \overline{DB} and \overline{AC} , are connected at their midpoints. (E is the midpoint of \overline{AC} and \overline{DB} .) Prove that $\triangle ABE \cong \triangle CDE$.



13) a) Find the radius.

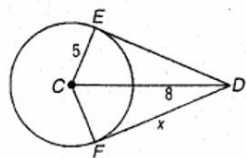


b) \overline{PA} and \overline{PB} are tangents to circle O. Find the measure of the intercepted arc indicated by x.

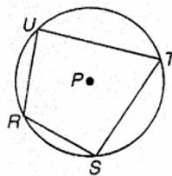


x = _____

d) $m\angle RST = 95$ and $m\widehat{STU} = 220$. Find
 $m\angle SRT =$ _____
 $m\angle RUT =$ _____
 $m\widehat{TUR} =$ _____
 $m\widehat{UTS} =$ _____



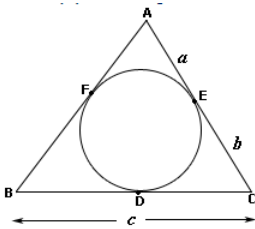
c) \overline{ED} and \overline{FD} are tangent to circle C. Find the value of x.



14) Use the word bank to name the term that best describes the notation below.

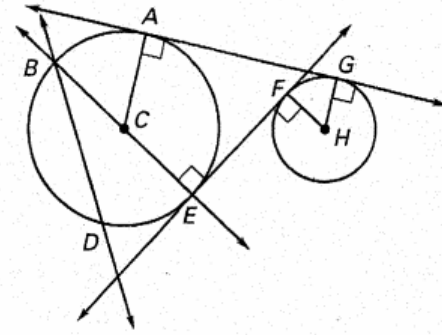
1. \widehat{AB} _____
2. $\angle AIE$ _____
3. $\angle ACE$ _____
4. \overline{HG} _____
5. \overline{BE} _____
6. \widehat{BDA} _____
7. \overline{BD} _____
8. $\angle DBE$ _____
9. \overrightarrow{AG} _____

15) Triangle ABC is circumscribed about the circle. Find the perimeter of triangle ABC if $a = 8$ cm, $b = 9$ cm, and $c = 18$ cm.



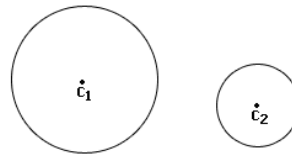
Word Bank:

Radius	Central Angle	Major Arc
Minor Arc	Tangent Line	Diameter
Inscribed Angle	Circumscribed Angle	Chord

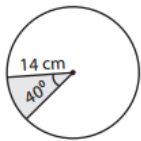


16)

The radius of Circle $C_1 = 26$ in and the radius of circle $C_2 = 10$ in. The distance between the centers of the two circles is 43 in. What is the horizontal length between the two points of tangency?

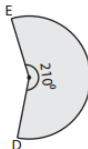


17) a)



Area = _____

b)

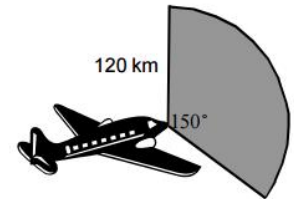


Length of the arc DE = 18.32 cm

Area = _____

c)

The radar beam sent out by an aeroplane reaches a distance of 120 kilometres and covers an angle of 150° .



Calculate the area covered by the beam.

18) a) Find the radius

b) Find the length of the major arc.

c) Find the central angle in radians.

