



UANL

UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN



SCHOOL YEAR: 2021 – 2022
 INTEGRATIVE LABORATORY STAGE 1
 ELABORATED BY: MANAGEMENT OF FORMS AND SPACES ACADEMY
 ACADEMY CHIEF: DRA. ADRIANA I. GARZA CERVANTES
 EDUCATIVE PROGRAM: BILINGUAL

SEMESTER: JANUARY – JUNE 2022
 DATE: FEBRUARY 2022
 SECOND SEMESTER

STUDENT NAME: _____

GROUP: _____

R.N. _____

GRADE: _____

CO-EVALUATED BY: _____

I. INSTRUCTIONS: Correctly match the following columns.

1.	()	If S is the arc of a circumference of radius r described by an angle θ , the relationship between these three elements is given by:	a) $\theta = \frac{S}{r}$
2.	()	It is the part of Mathematics that studies the properties of geometric bodies in general.	b) Barycenter c) 180°
3.	()	This is the name given to three or more points that are all on the same straight line.	c) Thales Theorem d) Adjacent angles
4.	()	If two semi-lines or rays have the same origin, then the union set of both is called:	e) Circular system
5.	()	Angle measurement system that consists of dividing a circumference into 360 equal parts, through points located on it.	f) Congruent g) Colinear
6.	()	Two angles are supplementary if the sum of both measures:	h) Angle
7.	()	Two angles are called _____ when the sides of one are opposite rays to the sides of the other.	i) 90° j) Geometry
8.	()	Point where the medians of a triangle intersect.	k) Incenter
9.	()	If parallel lines are intersected by transversals, proportional segments are determined on these lines.	l) Sexagesimal system
10.	()	In two triangles, if their corresponding sides have the same length and their corresponding angles have the same measure, they are said to be:	m) Opposite by vertex n) Pythagoras theorem

II. INSTRUCTIONS: Carefully read each reagent, perform the corresponding procedure and circle the correct answer. (Without the procedure your answer will not be valid).

11.- Convert 108° sexagesimal degrees into radians:

- a) $\frac{3}{5}\pi \text{ rad}$ b) $\frac{3}{2}\pi \text{ rad}$ c) $\frac{5}{3}\pi \text{ rad}$ d) $\frac{2}{3}\pi \text{ rad}$ e) $\frac{4}{3}\pi \text{ rad}$

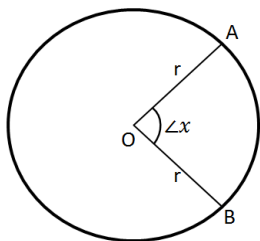
12.- Convert 68° sexagesimal degrees into radians:

- a) 1.36 rad. b) 0.38 rad. c) 2.63 rad. d) 1.44 rad. e) 0.87 rad.

13. Transform $\frac{2}{5}\pi$ radians into sexagesimal degrees:

- a) 1.2566° b) 72° c) 67° d) 92° e) 74°

14. In the following figure "S" represents the length of the arc, "x" the measure of the angle and "r" the measure of the radius. Calculate the value of the radius.



Data:
 $S = 22.5 \text{ cm}$
 $\angle x = 150^\circ$
 $r = \underline{\hspace{2cm}}$

- a) 58.95 cm b) 2.62 cm c) 8.59 cm d) 0.15 cm e) 40.5 cm

15. An engineer has designed a circular metal part for an electrical transport equipment. The following figure shows the design of the front view of the piece designed by the engineer. If the length S of the arc AB is 142 cm and that of the radius is 21 cm. Find the measure of angle x in sexagesimal degrees.



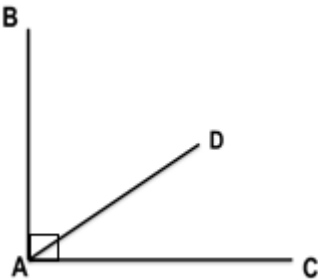
Data:
 $S = 142 \text{ cm}$
 $r = 21 \text{ cm}$
 $\angle x = \underline{\hspace{2cm}}$

- a) 387.31° b) 250.57° c) 190.30° d) 200.32° e) 333.29°

16. Fill in the following table with the respective angles: Complementary, Supplementary and Conjugate.

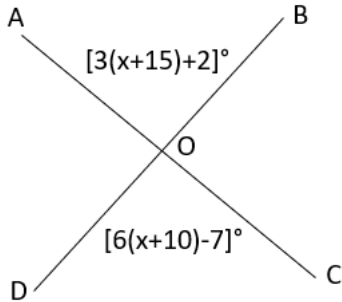
ANGLE	COMPLEMENT	SUPLEMENT	CONJUGATE
$35^{\circ} 32' 45''$			
			$295^{\circ} 43' 31''$

17. Find the value of "x", if the angle $DAC = \frac{3}{4}x$ and the angle $BAD = \frac{5}{3}x$



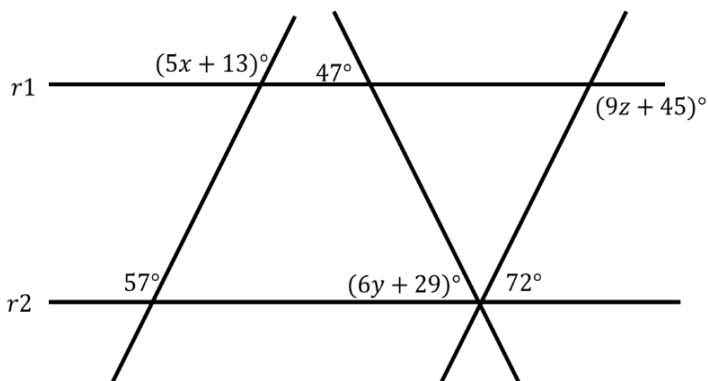
- a) $x = 37.2^{\circ}$ b) $x = 48.6^{\circ}$ c) $x = 43.2^{\circ}$ d) $x = 53.8^{\circ}$ e) $x = 23.4^{\circ}$

18. Determine the measure of angle BOC for the following figure.



- a) 139° b) 41° c) 2° d) -2° e) -41°

19. Calculate the value of "x", "y" and "z", considers that $r1 \parallel r2$

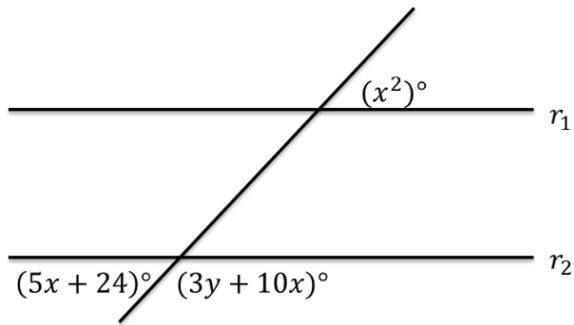


$x = \underline{\hspace{2cm}}$

$y = \underline{\hspace{2cm}}$

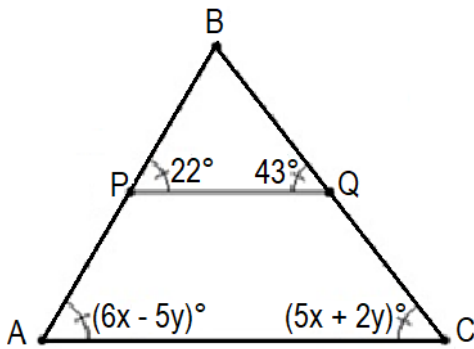
$z = \underline{\hspace{2cm}}$

20. Find the value of "x" and "y" if r_1 and r_2 are parallel lines and $x > 0$.



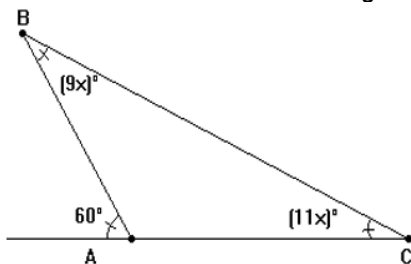
- a) $x = 5$
 $y = 8$ b) $x = 3$
 $y = 10$ c) $x = 8$
 $y = 12$ d) $x = 6$
 $y = 15$ e) $x = 9$
 $y = 3$

21. Find the value of "x" and "y" in the following figure, considers $AC \parallel PQ$.



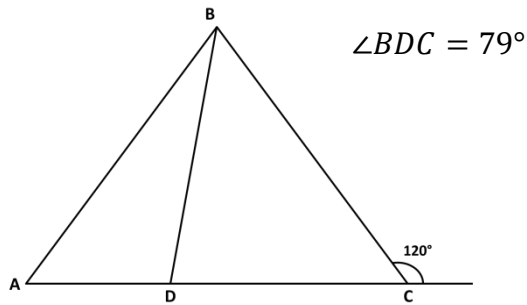
- a) $x = 8$
 $y = 4$ b) $x = 7$
 $y = 4$ c) $x = 4$
 $y = 8$ d) $x = 12$
 $y = 2$ e) $x = 7$
 $y = 4$

22. Calculate the value of "x" in the triangle of the following figure.



- a) $x = 3$ b) $x = 5$ c) $x = 10$ d) $x = 9$ e) $x = 4$

23. In the following triangle calculate the value of the angle $\angle BAC$. Consider that BD is a bisector.

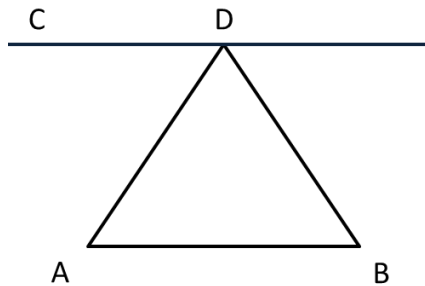


- a) 60° b) 38° c) 35° d) 50° e) 25°

24. If A , B , and C are the interior angles of a triangle, whose values are $A = (5x + 3)^\circ$, $B = (8x - 7)^\circ$, and $C = (2x - 11)^\circ$, determine the measure of each them and select them from the answers given.

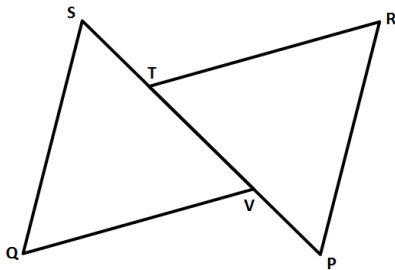
- a) 97° b) 13° c) 68° d) 75° e) 15°

25. Demonstrate the theorem "The sum of the interior angles of a triangle is 180° ." Considers $CD \parallel AB$. (TIP: You can extend lines or add angles)



ARGUMENT DEMONSTRATION JUSTIFICATION

26. In the following figure $SQ \parallel RP$, $TR \parallel QV$ and $ST = VP$. Demonstrate that $\triangle SQV \cong \triangle RPT$



Argument Justification

- a) SAS b) ASA c) SSS d) AA e) SSA

