

SCHOOL YEAR: 2017 – 2018	SEMESTER: JANUARY – JUNE 2018
INTEGRATIVE ACTIVITY STAGE 4 MATHEMATICS II	DATE: MAY 2018
MADE BY: MATHEMATICS ACADEMY	SECOND SEMESTER
MATHEMATICS II ACADEMY COORDINATOR: MTRA. ADRIANA I. GARZA CERVANTES	
EDUCATIVE PROGRAM: BILINGUAL	

NAME OF THE STUDENT: _____			
GROUP: _____	R.N. _____	SCORE _____	
COEVALUATION MADE BY: _____			

I. DIRECTIONS: Relate correctly the following columns.

- | | |
|---|---|
| 1. () This is how the angles are called when their terminal side matches with one of the coordinate axes: | A) Reference angle |
| 2. () It consists of two numeric lines perpendicular to each other (called axes), one horizontal and one vertical, whose point of intersection (origin) is zero in each scale. | B) Right triangle
C) Normal position |
| 3. () It is the positive acute angle between the X axis (positive or negative part) and the terminal side R of the given angle. | D) Quadrantal angle
E) Terminal side |
| 4. () It is said that an angle is thus, when its vertex is at the origin and its initial side matches with the positive axis "x". | F) Radial distance |
| 5. () It is called this way to the process of determining, from some of them, the remaining elements of a triangle. | G) $A = \frac{1}{2}absenC$ |
| 6. () Mathematical expression that says: "If a, b and c are the lengths of the sides of any triangle and A, B and C are respectively the angles that oppose those sides, we have: $\frac{a}{senA} = \frac{b}{senB} = \frac{c}{senC}$ " | H) Resolution of a triangle
I) Coterminal angles |
| 7. () It is the mathematical expression that says: "If a, b and c are the lengths of the sides of any triangle, and C denotes the measure of the angle between the sides of length a and b, then we have: $c^2 = a^2 + b^2 - 2ab \cos C$ " | J) Obtuse angle
K) $A = \frac{bh}{2}$ |
| 8. () This is the distance from the origin "O" to any point "P" in a coordinate system. | L) Law of Sines
M) Law of Cosines |
| 9. () The angles with different measurements but with the same terminal side are called: | N) Pythagoras theorem |
| 10. () If ABC is any triangle whose sides have lengths a, b, and c, and C is the angle formed by the first two, then the area of the triangle is calculated by the formula: | O) Coordinate rectangular system |

II. DIRECTIONS: Read carefully each problem, perform the corresponding procedure and circle the correct answer. (Without the procedure, the problem will be considered wrong).

The point (- 4, - 6) is on the terminal side of an angle "A" in normal position, solve the problems 11 and 12.

11. Find Sin A

- a) $\frac{-3\sqrt{13}}{13}$ b) $\frac{-2\sqrt{13}}{13}$ c) $\frac{-4}{6}$ d) $\frac{-3}{13}$ e) $\frac{-3}{\sqrt{13}}$

12. Find Cos A

- a) $\frac{-3\sqrt{13}}{13}$ b) $\frac{-2\sqrt{13}}{13}$ c) $\frac{-4}{6}$ d) $\frac{-3}{13}$ e) $\frac{-3}{\sqrt{13}}$

13. It is a coterminal angle of 60° :

- a) 50° b) 40° c) -300° d) 30° e) 120°

14. $\text{Sen}0^\circ + 3\cos 0^\circ + \text{sen}90^\circ - 2\cos 180^\circ =$

- a) 6 b) 3 c) 0 d) -1 e) -3

15. $\text{Sen}\frac{\pi}{2} - \text{sen}\pi + 5\text{sen}2\pi + \cos\frac{\pi}{2} - \cos\pi =$

- a) 0.5209 b) 2 c) $\frac{\pi}{4}$ d) 0 e) 3.5

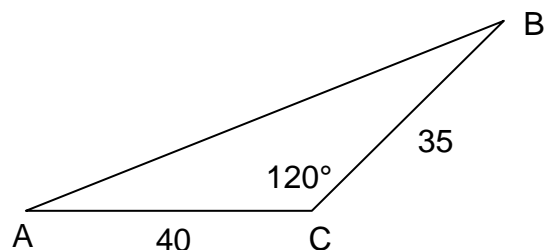
16. Given the function $\cos\theta = 0.32556$, find the values of the angle θ if $0^\circ \leq \theta \leq 360^\circ$.

- a) 128° and 251° b) 192° and 348° c) 39° and 141° d) 71° and 289° e) 128° and 308°

17. Given the function $\tan\theta = -1.732$, find the values of the angle θ if $0^\circ \leq \theta \leq 360^\circ$.

- a) 252° and 132° b) 120° and 230° c) 120° and 300° d) 152° and 200° e) 128° and 308°

Given the following triangle, solve the problems 18 and 19.



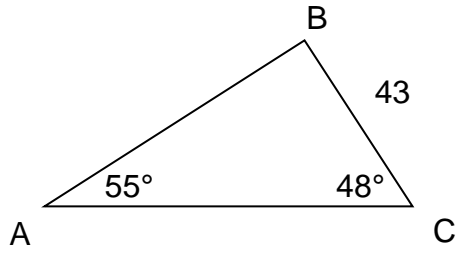
18. Determine the length of the side c.

- a) 70.6 b) 61.44 c) 56.4 d) 65 e) 78.6

19. Find the measure of the angle A.

- a) 20.63° b) 32.2° c) 27.8° d) 36.8° e) 23.5°

Given the following triangle, solve the problems 20 and 21.



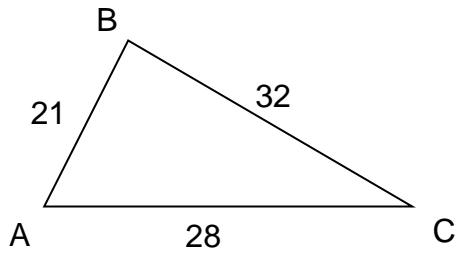
20. Find the length of the side b.

- a) 30.9 b) 51.15 c) 39.01 d) 43.46 e) 14.14

21. Find the length of the side c.

- a) 30.9 b) 51.15 c) 39.01 d) 43.46 e) 14.14

Given the following triangle, solve the problems 22 and 23.



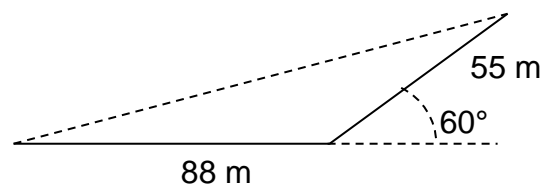
22. Calculate the measure of the angle C.

- a) 53.13° b) 35° c) 43.9° d) 58.7° e) 40.29°

23. Calculate the area of the triangle.

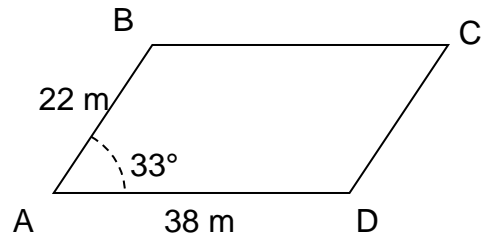
- a) 328.6 b) 226.3 c) 289.67 d) 304.1 e) 348.1

24. To calculate the area of a triangular terrain, an architect walks 88 m east. After turning 60° he walks 55 m. Calculate the perimeter of the land.



- a) 206.4 b) 215.4 c) 243.57 d) 254.28 e) 267.94

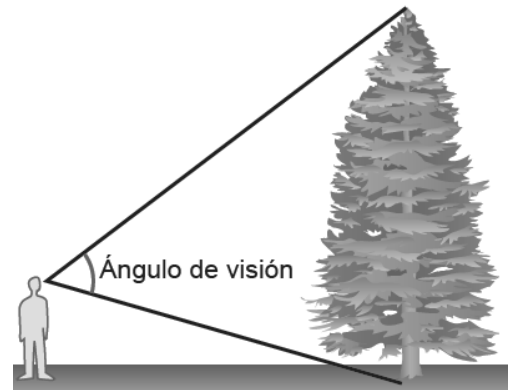
25. Find the area of the following parallelogram



- a) 280 m^2 b) 455.32 m^2 c) 227.66 m^2 d) 333.3 m^2 e) 214.71 m^2

26. Juanito is watching a tree as shown in the figure and he wonders the angle of vision that he has respect to the tree. He made a series of measurements with the help of a measuring tape, obtaining the following information:

- a) Juanito's height is 1.50 meters.
 b) The height of the tree is 3.54 meters.
 c) Juanito's distance to the tree is 4 meters.



- a) 45° b) 47.61° c) 69.51° d) 90° e) 20.49°

27. Two people A and B watch at the same time the position of a hot air balloon. The elevation angle of the person A is 75° , while the elevation angle of the person B is 25° . If the distance between the two people is 100 m, calculate:

- a) The distance from person B to the balloon.
 b) The height at which the balloon is located.

- a) a) 101.95 m b) 41.45 m b) a) 98.08 m b) 232.07 m c) a) 101.95 m b) 43.08 m d) a) 98.08 m b) 41.45 m e) a) 98.08 m b) 19.5 m