

# UMMUL-QURA HIGH SCHOOL

Arowona Bus-Stop, Amuloko, Ibadan, Oyo State

Second Term Examination, 2020/2021 Academic Session.

**Subject:** Mathematics

**Class:** JSS 2

**Time:**  $2\frac{1}{2}$  hours

**Instructions:** Answer **all** questions in Section A and **three** in Section B.

## PAPER I & II [Objective and Theory]

### SECTION A: OBJECTIVE (40 marks).

- Which of the following is **not** a factor of 72?  
A. 72  
B. 36  
C. 14  
D. 18
- What percentage of 400 **cm** is 20 **cm**?  
A. 5  
B. 2.5  
C. 20  
D. 50
- If  $6\frac{3}{4}$  is expressed as an improper fraction its numerator will ----.  
A. 24  
B. 27  
C. 4  
D. 6
- A triangle is said to be an acute angled triangle is if two of its angles is ----.  
A. more the  $90^0$   
B. less than  $90^0$   
C. equal to  $90^0$   
D. less than  $180^0$
- An equilateral triangle with side 4cm. Find its perimeter.  
A. 16 **cm**  
B. 12 **cm**  
C. 12 **cm**  
D. 16 **cm**
- Convert  $1010_2$  to base 10.  
A. 4  
B. 6  
C. 8  
D. 10
- A wrist watches costs ₦8000. At what price will Kunle sell it to make a profit of 20%?  
A. ₦ 7,600  
B. ₦ 8,400  
C. ₦ 9,600  
D. ₦ 12,600
- In a right-angled triangle, one of its angles is ----.  
A. less the  $90^0$   
B. equal to  $90^0$   
C. more than  $180^0$   
D. less than  $180^0$
- Denary means to be in base ----.  
A. 2  
B. 10  
C. 8  
D. 4
- Find the circumference of a circle line of diameter 14 **cm**.  
A. 22  
B. 44  
C. 88  
D. 308
- Express 0.000724 in standard form.  
A.  $724 \times 10^4$   
B.  $724 \times 10^{-4}$   
C.  $7.24 \times 10^4$   
D.  $7.24 \times 10^{-4}$

12. How many lines of symmetry does a circle has?

- A. 4
- B. 2
- C. 1
- D. Infinity

13. Evaluate  $1.44$ .

- A.  $1\frac{11}{3}$ .
- B.  $1\frac{11}{25}$ .
- C.  $1\frac{1}{5}$ .
- D.  $1\frac{1}{2}$ .

14. Using four figure tables, what is the square root of  $49.748$ ?

- A. 7.05
- B. 7.01
- C. 7.02
- D. 7.03

15. A  $\pi$  is equals to

- A.  $\frac{22}{7}$ .
- B.  $\frac{7}{21}$ .
- C.  $\frac{7}{22}$ .
- D.  $\frac{21}{7}$ .

16. What is the square of the HCF of 60 and 108?

- A. 120
- B. 30
- C. 36
- D. 144

17. What is the additive inverse of  $-\frac{1}{12}$ ?

- A.  $\frac{21}{1}$ .
- B.  $\frac{1}{12}$ .
- C.  $\frac{12}{1}$ .
- D.  $\frac{3}{12}$ .

18. Simplify:  $\frac{4abcd}{2ab}$

- A.  $4acd$
- B.  $2ac$
- C.  $2cd$
- D.  $4cd$

19. Find the sum of  $3x$ ,  $4x$  and  $x$ .

- A.  $14x$
- B.  $8x$
- C.  $10x$
- D.  $18x$

20. Expand  $2x(3-4x)$ .

- A.  $2x + 4x^2$
- B.  $6x + 8x^2$
- C.  $6x - 8x^2$
- D.  $2x - 4x^2$

21. Simplify  $3(4a + 7) - 2(2a - 5)$ .

- A.  $4a + 3$
- B.  $2a + 12$
- C.  $8a + 31$
- D.  $6a + 41$

22. What is the coefficient of  $y$  in

$$2x - 7y + 3?$$

- A. 2
- B. 7
- C. -2
- D. -7

23. Simplify  $7t - 3t + 4t - 5t$ .

- A.  $t$
- B.  $2t$
- C.  $3t$
- D.  $4t$

24. Find the value of  $t$  in the equation  $2t - 7 = 15$ .

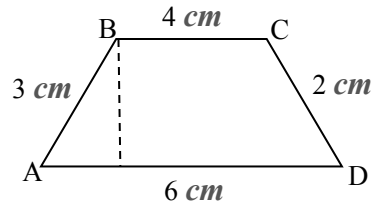
- A. 4
- B. 5
- C. 11
- D. 22

25. Find the products of the coefficient of  $x$  and  $y$  in the expression on:

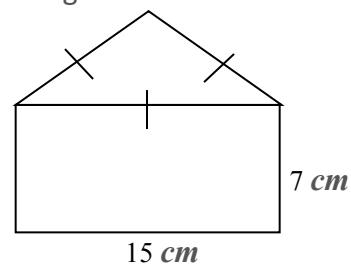
$$3y - 2x + 1.$$

- A. 6
- B. -1

- C. -6  
D. 1
26. Simplify:  $\frac{9x^3y^2z}{27x^2y}$
- A.  $3xyz$   
B.  $\frac{xyz}{3}$   
C.  $\frac{3}{xyz}$   
D.  $xyz$
27. Which of the following is used to determine the middle number of a data set?
- A. Median  
B. Mean  
C. Mode  
D. Range
28. Find the mean of the following numbers 5, 4, 2, 3, 7, 6, 1.
- A. 6  
B. 5  
C. 4  
D. 3
29. Which of the following fractions is equivalent to  $\frac{3}{5}$ .
- A.  $\frac{4}{18}$   
B.  $\frac{9}{27}$   
C.  $\frac{12}{20}$   
D.  $\frac{8}{16}$
30. Find the HCF of 54, 36 and 72.
- A. 6  
B. 12  
C. 18  
D. 36
31. Convert 3684 to standard form.
- A.  $3.684 \times 10^3$   
B.  $3.684 \times 10^{-3}$   
C.  $3.684 \times 10^2$   
D.  $3.684 \times 10^{-2}$
32. Calculate the perimeter of the trapezium below;



- A. 24  
B. 12  
C. 13  
D. 11
33. The perimeter of a circle is 22 cm. Find the radius of the circle.
- A. 2.0 cm  
B. 7.0 cm  
C. 2 cm  
D. 3.5 cm
34. Which of the following is property of a kite?
- A. All sides are equal.  
B. One line of symmetry.  
C. Two lines of symmetry.  
D. Two sides are parallel.
35. If  $a = 2$  and  $b = -2$ , find the value of  $\frac{2a-b}{b-a}$ .
- A.  $-\frac{3}{5}$   
B.  $\frac{2}{3}$   
C.  $-\frac{4}{5}$   
D.  $-1\frac{1}{2}$
36. Calculate the perimeter of the diagram below.



- A. 60 m  
B. 47 m  
C. 74 m  
D. 59 m

37. Each angle in a rectangle is ----.

- A. an acute angle
- B. a right-angled
- C. an obtuse angle
- D. twice the center

38. The line that divides the circle into two segments is ----.

- A. radius
- B. chord
- C. sector
- D. diameter

39. Convert 0.675 **cm** to meter.

- A. 6.75 **m**
- B. 0.00675 **m**
- C. 675 **m**
- D. 67.5 **m**

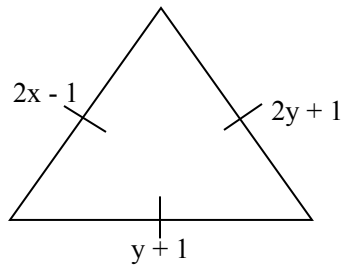
40. The sum of angles in a triangle equal ----.

- A.  $90^0$
- B.  $120^0$
- C.  $180^0$
- D.  $360^0$

SECTION B: THEORY (40 marks).

Instructions: Answer **three** questions in **ALL** question **one** is compulsory.

1. The sides of the equilateral triangle as shown below are given in **cm**.



- a) obtain the perimeter of the figure.  
b) find the value of  $x$  and  $y$ .

2a. A piece of wire in a circular form has a radius of 28 **cm**. It then reshaped into a rectangular box of length 50 **cm**. Calculate the breadth of the rectangle.

2b. Calculate the perimeter of a regular pentagon of side 10.5 **cm**.

3a. Simplify the following algebraic expression;

i.  $3b(4 - 8a) - 6(7b - 11ab)$

ii.  $6x - 3(4 - 2x) = 24$

3b. Factorise this equation  $x^2 - 8x + 15$ .

4a. Copy and complete the table below.

SN	Shapes	Sides	Angles	Line of symmetry
1	Equilateral			
2	Isosceles triangle			
3	Isosceles trapezium			
4	Acute angled triangle			
5	Rectangle			

4b. What is the perimeter of the rectangle below;

