

**EDUCATION-NEWS CONSULT  
DEC. 2023 BECE HOME MOCK 2**

**(2024 BECE)  
MATHEMATICS 1 & 2**

**2 HOURS**

Name.....

Index Number.....



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**EDUCATION-NEWS CONSULT MOCK – DEC 2023 EDITION FOR 2024 BECE**

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**SPECIAL PERFORMANCE BOOSTER – MOCK 2**

**DECEMBER 2023**

**MATHEMATICS**

**2 HOURS**

*Do not open this booklet until you are told to do so. While you are waiting, read and observe the following instructions carefully. Write your name and index number in ink in the spaces provided above.*

*This booklet consists of two papers; I and II. Answer Paper 2 which comes first in your answer booklet and Paper 1 on your Objective Test answer sheet. Paper 2 will last for 1 hour after which the answer book let will be collected. Do not start Paper until you are told to do so. Paper 1 will last 60 minutes.*

**VERY IMPORTANT INSTRUCTIONS**

- 1. Read through the questions, brainstorm and plan your answers before you finally answer them. This is one of the good ways to manage your time in an exam and to do well.*
- 2. Write clearly, use simple expressions and provide the best answers possible.*
- 3. Write answers that provide additional information. If you just list answers or provide one to three worded answers, your will fail the paper.*
- 4. Do well to explain your answers to help earn full marks. Check your units of measurement, spellings, grammar and read over your work before submitting.*
- 5. Write question numbers boldly, start every new major question (answers) on a new page.*
- 6. Do not rewrite the full question before answering. Only write the question number.*
- 7. Show workings in all instances in section B if the question involves calculations.*

**PAPER 2**  
**ESSAY**  
[60 MARKS]

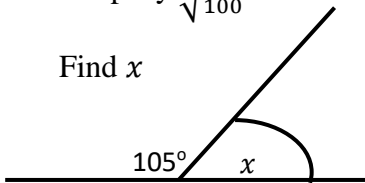
*1 Hour 15 minutes*

*Answer four questions only. All questions carry equal marks.  
All working must be clearly shown. Marks will not be awarded for correct answers without corresponding working.*

1. (a) Adom earns GH¢ 2,500 a month after tax, and his elder brother Arko earns three times as much. How much is their total income after five years if there is no increase in their earnings?

(b) Simplify  $\sqrt{\frac{16}{100}}$

- (c) Find  $x$



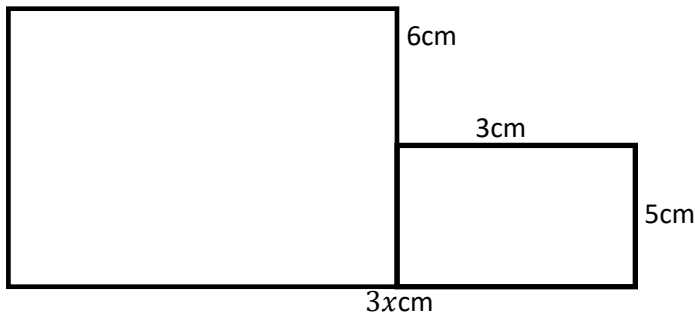
2. (a) Construct the following angles

(i)  $60^\circ$

(ii)  $45^\circ$

- (b) Evaluate  $23000 \times 0.0013$ , leaving your answer in standard form.

3. The diagram below shows a figure.

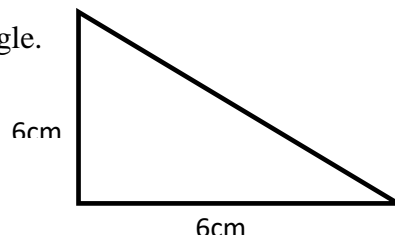


Calculate:

- (a)  $x$  if the perimeter of the figure is 46cm.  
(b) The area of the figure.

4. (a) Calculate the diameter of a circle whose area is  $154\text{cm}^2$

- (b) Find the area of the triangle.



5. (a) Ebo weighs 28.6Kg. His father weighs four time as heavy, what is the total weight of Ebo and His father?

- (b) Mr. Owusu has GH¢ 2500 and gave his son  $\frac{3}{5}$  of it. What amount of the money is left?

- (c) Find the values of **M** and **N**.

4	8	12	16	20	24
15	30	<b>M</b>	60	<b>N</b>	90

6. (a) A man is paid 25% commission on the sales of goods. If his monthly salary is GH¢ 1200.00 and he makes a sale of GH¢ 2000.00 in the month, find His total earnings.
- (b) What amount will be required to buy 5 mathematical sets, 6 pens, 10 rules and 1 graph book?

<i>Item</i>	<i>Unit price (GH¢)</i>
Mathematical set	5.00
Graph book	2.50
Rule	1.20
Pen	1.00
Exercise book	2.00

**PAPER 1**  
**OBJECTIVE TEST**

45 Minutes

Answer *All* Questions

*Each question is followed by four options lettered A to D. Find out the correct option for each question and shade in pencil on your answer sheet the answer space which bears the same letter as the option you have chosen. Give only one answer to each question.*

1. The probability of obtaining a 6 when a dice is thrown once is
  - A.  $\frac{1}{6}$
  - B.  $\frac{2}{6}$
  - C.  $\frac{3}{6}$
  - D. 1
2. Which of the following deals with the highest frequency?
  - A. Median
  - B. Mode
  - C. Mean
  - D. None
3. Choose the odd one in the following numbers.
  - A. 2
  - B. 3
  - C. 4
  - D. 5
4. The following numbers are collectively called 2, 3, 5, 7, 11.....
  - A. Composite numbers
  - B. Prime numbers
  - C. Magic numbers
  - D. Rational numbers
5. Find the median in the following numbers. 19, 29, 36, 15, 20.
  - A. 19
  - B. 29
  - C. 36
  - D. 20
6. The protractor is used to.....
  - A. draw angles.
  - B. connect angles.
  - C. measure angles.
  - D. break angles.
7. The base of a triangle is 9cm and the height is 6cm. What is its area?
  - A. 30
  - B. 25
  - C. 20
  - D. 27
8. The value for  $\pi$  is
  - A. 3. 143
  - B. 3. 2
  - C. 3.145
  - D. 4.22
9. All the following are required in geometric construction **except**
  - A. Ruler.
  - B. Pair of compasses.
  - C. Pencil.
  - D. Protractor.
10.  $4 \times 3$  will give the same results as.....
  1.  $4+3+3$
  2.  $4 \div 3 \div 3$
  3.  $4 \times 3 \times 3$
  4.  $4+4+4$
11. When twice a certain number is added to 7, the results is less than 17. What is the mathematical expression for this statement?
  - A.  $2x - 7 < 17$
  - B.  $2x + 7 = 17$
  - C.  $2x + 7 > 17$
  - D.  $2x + 7 < 17$
12. Simplify  $5\frac{5}{6} + 2\frac{3}{9}$ .
  - A.  $\frac{147}{18}$
  - B.  $\frac{100}{18}$
  - C.  $\frac{147}{9}$
  - D. 1
13. Length  $\times$  Breadth is the formular for finding area of a
  - A. trapezium
  - B. parallelogram
  - C. rectangle
  - D. triangle
14. A triangle has.....
  - A. two angles and two sides.
  - B. four angles and four sides.
  - C. three angles and three sides.
  - D. five angles but no sides.

15. A right angle is equal to.....
- $180^\circ$
  - $270^\circ$
  - $90^\circ$
  - $360^\circ$
16. Evaluate  $\sqrt{\frac{49}{25}}$ .
- $\frac{1}{2}$
  - $\frac{7}{5}$
  - $\frac{5}{7}$
  - 1
17. Compare 987200 and 897200, using  $<$ ,  $>$ ,  $=$ .
- $987200 < 897200$
  - $987200 > 897200$
  - $897200 > 987200$
  - $897200 = 987200$
18. Write 234 in standard form.
- $2.34 \times 10^2$
  - $23.4 \times 10^2$
  - $124.0 \times 10^3$
  - $0.234 \times 10^0$
19. Write 626300, correct to 3 significant figures.
- 6283
  - 628000
  - 62830
  - 628300
20. When constructing  $75^\circ$ , you will need all the following angles **except**
- $90^\circ$
  - $60^\circ$
  - $45^\circ$
  - $180^\circ$
21. Write twenty-five thousand, two hundred and six in numerals is.....
- 25,206.
  - 252,026.
  - 205,206.
  - 250,206.
22. Find the missing number in the fraction that follows.  $\frac{1}{5} = \frac{5}{\quad}$
- 30
  - 35
  - 25
  - 45
23. Arrange the following in descending order.  
8.23, 8.32, 8.30.
- $8.30 > 8.23 > 8.30$
  - $8.23 > 8.30 > 8.32$
  - $8.32 > 8.23 > 8.30$
  - $8.32 > 8.30 > 8.23$
24. Solve for  $x$  in 6:  $x = 30$ : 25.
- 3
  - 5
  - 4
  - 7
25. If the length of a rectangle is 12cm and the area is  $48\text{cm}^2$ , find the breadth.
- 3
  - 5
  - 6
  - 4
26. The formular  $\frac{1}{2}bh$  represents the \_\_\_\_\_
- Area of a circle
  - Perimeter of a triangle
  - Area of a triangle
  - Circumference of a circle
27. What is the place value of 8 in 132,833.
- Hundred
  - Thousand
  - Tens
  - Ten-thousands
28. Joan sold 204 eggs, how many dozens did she sell?
- 12
  - 15
  - 17
  - 19
29. Calculate 40% of 90.
- 40
  - 36
  - 28
  - 30
30. The HCF of 4 and 12 is
- 12
  - 4
  - 3
  - 6

Use the table provided to solve questions 31 and 32.

Meat Kg	2	3	5	$y$
Cost GH¢	$x$	60		240

31. Find the value of  $x$ .

- A. 45
- B. 50
- C. 55
- D. 40

32. Find the value of  $y$ .

- A. 12
- B. 13
- C. 14
- D. 15

33. Multiply  $\frac{3}{8} \times \frac{3}{7} = \dots\dots\dots$

- A.  $\frac{21}{24}$
- B.  $\frac{24}{21}$
- C.  $\frac{9}{56}$
- D.  $\frac{56}{9}$

34. Negative two is multiplied by a number and the result is six. Find the number.

- A. 3
- B. 2
- C. -3
- D. -2

35. A height of 72 meters is ..... the ground.

- A. parallel to
- B. above
- C. below
- D. none of the above

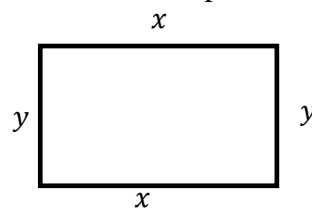
36. The word product in mathematical terms refers to

- A. addition
- B. subtraction
- C. multiplication
- D. division

37. If six men share thirty-six mangoes, each person will receive.....

- A. 3
- B. 6
- C. 9
- D. 12

38. What is the mathematical expression for the diagram below if the perimeter is 24cm.



- A.  $x + y = 24$
- B.  $2x + y = 24$
- C.  $x + 2y = 24$
- D.  $2x + 2y = 24$

39. Find  $v$  when  $3v = 33$

- A. 13
- B. 12
- C. 11
- D. 10

40. An angle is formed when.....

- a. between two lines meeting at a point.
- b. between parallel lines.
- c. between two planes.
- d. between two cardinal points.