FINALPREPS ASSESMENTS AND EVALUATIONS

Mock Examination for B.E.C.E Candidates

October 2025

MATHEMATICS 2 & 1
(ESSAY AND OBJECTIVE TEST)

2 hours

Name: .....

Index Number: .....

INSTRUCTIONS

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. Answer Paper 2 which comes first, in your answer booklet and Paper 1 on your Objective Test answer sheet provided. Paper 2 will last 60 minutes after which the answer booklet will be collected. Do not start Paper 1 until you are told to do so. Paper 1 will last 60 minutes.

INSTRUCTIONS: This paper is made up of two Sections – **A** and **B.** You are to answer **all** questions in Section **A and** any **four (4)** questions from **Section B** ***(60 Marks)***. The total mark for this paper is **100**.

SECTION A (40 Marks): *Answer* ***all*** *questions in this Section. Shade the letter corresponding to the correct answer on the* ***objective answer sheet*** *provided. Each question carries* ***1 mark.***

PAPER 2

ESSAY - 1 HOUR

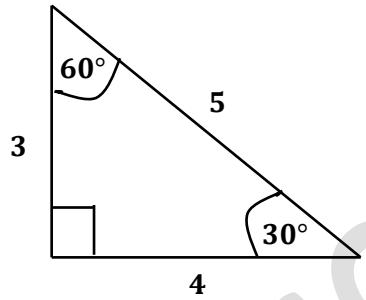
1. **a**) Mr. Sikapa shared $\boldsymbol{GH¢360.45}$ among his two sons Adwinpa and Adwinkese in the $\boldsymbol{4:5}$ respectively.

How much did;

i) Adwinpa receive?

ii) Adwinkese receive?

b)



In the diagram above is right – angled triangle. Use it to find;

i) $sin60°$ ii. $cos60°$ iii. $tan30°$

c) Show that $\boldsymbol{x^0 = 1}$

2. **a)** A trader bought 4 sacks of oranges, each containing 335 oranges at GH₵320 for each sack. The next day she discovered that 80 of the oranges had gone rotten. Calculate;

i. the total cost price of the oranges.
ii the total selling price of the oranges.
iii. her profit or loss if she sold 3 oranges for GH₵ 4.00

3. **b**) Calculate $\boldsymbol{15\%\ of\ GH¢\ 4500}$.

c) Simplify the following; i) $\frac{2}{15} \times \frac{5}{7}$ ii) $\frac{3}{4} \times \boldsymbol{800kg}$

a) Miss. Efriyie spent $\frac{1}{4}$ of her monthly salary on food, $\frac{2}{5}$ on rent and gave $\frac{1}{3}$ to her daughter Yaa. Find the fraction of her salary left.

b) If $\boldsymbol{3^{x-2} = 81}$, find the value of $\boldsymbol{x}$.

c) Arrange the following in ascending order of magnitude;

i. $\frac{4}{5}$, $\boldsymbol{0.87}$, $\frac{3}{4}$ and $\boldsymbol{83\%}$

ii) $\boldsymbol{1.102,\ 11.20,\ 110.2,\ 0.1102, 1102}$

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4. a) Using a ruler and a pair of compasses only, construct ;

i. **ΔABC** such that **|AB| = 8cm**, angle **CAB = 45°** and angle **|AC| = 6cm**

ii. a perpendicular line from **C** to meet **AB** at **D.**

iii. Measure **|BC|.**

iv. Measure angle **ABC.**

b) Multiply $\mathbf{3.42}$ by $\mathbf{0.012}$ and leave answer in standard form.

5. The data below shows the number of people in the family of a group of learners.

3	**4**	**2**	**4**	**3**	**2**	**2**	**5**	**4**	**3**
2	**6**	**3**	**5**	**4**	**1**	**2**	**6**	**3**	**5**
5	**2**	**4**	**1**	**5**	**4**	**2**	**4**	**3**	**4**
2	**4**	**4**	**6**	**2**	**4**	**3**	**4**	**2**	**4**

a. Use tallies to organise this data into frequency distribution table.

b. From the table, find;

i. Mode

ii. Mean

iii. How many learners were there in the group?

c. Simplify $\mathbf{3a - 5b - 15 + 7a + 2 + 19b - a + 13b}$

6. a) Copy and complete table below for the relation $\boldsymbol{y = 2x + 1}$

x	-3	-2	-1	0	1	2
y	-5			1		

i) Using a scale of $\mathbf{2\ cm\ to\ 1\ unit}$ on both axes, draw two perpendicular axes **OX** and **OY**.

ii) Mark the $\boldsymbol{x - axis}$ from $\mathbf{-5\ to\ 5}$ and the $\boldsymbol{y - axis}$ from $\mathbf{-6\ to\ 6.}$

iii) Use the completed table to draw the graph of the relation.

b) From the graph, find;

i. the x intercept

ii. the x intercept

iii. x when $y = 1.5$

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SECTION A (OBJECTIVE TEST) – 40 MARKS.

Answer all questions.

1. What are the factors of 36?
a) {1, 2, 3, 4, 6, 9, 12, 18, 36} b) {1, 2, 3, 4, 5, 6, 9, 10, 12}
c) {1, 2, 4, 8, 16, 32, 64} d) {1, 3, 9, 27}

2. Solve for x: $\mathbf{2^x = 8}$
a) 2 b) 3 c) 4 d) 5

3. Simplify: $\left(\frac{2}{5} - \frac{1}{3}\right)$
A. $\frac{1}{2}$ B. $\frac{2}{15}$ C. $\frac{3}{15}$ D. $\frac{1}{15}$

4. What is the HCF of 18 and 24?
a) 2 b) 3 c) 6 d) 12

5. Find $\mathbf{30\% \; of \; 1500}$.
a) 300 b) 450 c) 500 d) 900

6. What is the decimal equivalent of $\frac{3}{8}$?
a) 0.375 b) 0.25 c) 0.5 d) 0.625

7. In a class of 25 students, 15 are girls. Find the ratio boys to girls.
a) 5 : 3 b) 2 : 3 c) 1 : 3 d) 3 : 2

8. What is the product of 2345 and 24?
a) 56,280 b) 56,320 c) 56,580 d) 56,620

9. If $240 is to be shared among 6 children, how much will each child get?
a) $40 b) $50 c) $60 d) $70

10. Simplify the following expressions $\mathbf{6a + 5 - a + 3}$
a) $7a + 8$ b) $6a + 8$ c) $5a + 2$ d) $7a - 8$

11. Determine the gradient the line $\mathbf{y = 4x - 2}$
a) 2 b) -2 c) 4 d) -4

12. Determine the $\mathbf{y - intercept}$ of the line $\mathbf{y = 4x - 2}$
a) 2 b) -2 c) 4 d) -4

13. What is the result of $\mathbf{-5 + 8 - 6 + 3}$?
a) -8 b) -2 c) 2 d) 0

14. What is the solution to $\mathbf{2^x = 32}$?
a) 2 b) 3 c) 4 d) 5

15. What is the value of $\mathbf{5 + x^0}$?
a) 5 b) x c) 1 d) 6

16. Simplify $\begin{pmatrix} -9 \\ 7 \end{pmatrix} + \begin{pmatrix} 9 \\ -7 \end{pmatrix}$,
A. $\begin{pmatrix} 18 \\ 0 \end{pmatrix}$ B. $\begin{pmatrix} 0 \\ 0 \end{pmatrix}$ C. $\begin{pmatrix} 0 \\ 14 \end{pmatrix}$ D. $\begin{pmatrix} -18 \\ -14 \end{pmatrix}$

17. What is the LCM of 24 and 36?
a) 12 b) 24 c) 36 d) 72

18. What is the smallest prime number greater than 5?
a) 6 b) 7 c) 8 d) 9

19. Given that two boys can eat 2.5 bowls of Fufu. How many bowls of Fufu can 6 boys eat, if the bowls are of the same size?
A. 15 bowls B. 12 bowls C. 1.5 bowls D. 14 bowls

20. If 15 pencils can be packed into 1 box. How many boxes will be needed pack 300 pencils?
A. 15 boxes B. 20 boxes C. 2 boxes D. 200 boxes

21. Express 48 as a product of repeated factors.
A. $2^4 \times 3^2$ B. $2^4 \times 3$ C. $3^4 \times 2$ D. $2^2 \times 3^2$

22. Given that $\mathbf{2^m = 32}$, Find the value of $\boldsymbol{m}$.
A. 4 B. 5 C. 3 D. 6

23. Which of the following is a set of prime factors of 20?
A. $(2, 3, 5)$ B. $(2, 3)$ C. $(2, 5)$ D. $(3, 5)$

24. Which of the following is a set of numbers that can divide 72 without a reminder?
A. $(1, 2, 4, 6, 8, 9, 12, 18, 24, 36, 72)$ B. (1,2,3, 4,6,8,9,12,18,24,36,72)
C. (1,2,3,6,8,9,12,18,24,36,72) D. (1,2, 3, 4,6,8,12,24,36,72)

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25. Convert $3\frac{7}{10}$ to improper fraction.
A. $\frac{73}{10}$ B. $\frac{3.7}{10}$ C. $\frac{10}{37}$ D. $\frac{37}{10}$

26. One – third of a certain number is 90. Find the number.
A. 720 B. 207 C. 270 D. 27

27. In a class of 20 learners 4 are boys. What percentage of the class are boys?
A. 40% B. 2% C. 50% D. 20%

28. Change 40% to decimal fraction.
A. 0.04 B. 4.0 C. 0.004 D. 0.4

29. Convert 0.35 to percentage.
A. 3.5% B. 35% C. 0.35% D. 350%

30. Find the highest number that can divide 35 and 70.
A. 5 B. 7 C. 10 D. 35

31. Which of the following is the highest?
$\mathbf{0}, \mathbf{-5}, \mathbf{-100}, \mathbf{0.0001}$
A. -5 B. -100 C. 0 D. 0.0001

32. A trader sold 90 mangoes at 2 for GHC 5. How much did she get from selling all the mangoes?
A. GHC 225 B. GHC 22.5 C. 2250 D. 2.25

33. Express 0.625 as a common fraction in its lowest term.
A. $\frac{7}{8}$ B. $\frac{3}{4}$
C. $\frac{5}{8}$ D. $\frac{1}{2}$

34. Find 2% of GHC 2000.
A. 40 B. 2100 C. 400 D. 800

35. Araba owes 550,000.00 at a bank. She goes to pay 150,000.00. How much does Araba owe the bank now?
A. 7500000 B. 600000
C. 60000 D. 6000000

36. Simplify $\mathbf{3y - 3 + 2x - y + 4x - 10 + 2y}$
A. $4y + 6x - 7$ B. $4y + 6x - 13$ C. $4y - 6x - 13$ D. $4y + 6x + 13$

37. Set **A** is called _____ of set **B**, when all the members of set **A** are also members of set **B**.
A. the universal set B. the union set
C. the null set D. a subset

38. Subtract $\mathbf{2.3}$ from $\mathbf{8.9}$
A. 0.63 B. 6.3 C. 6.3 D. 0.063

The number of pupils who attended hospital from some number classes on a particular day are: 1, 5, 3, 1, 7, 5, 1, 1.

Use the information to answer Questions 37 to 39.

39. Find the median number.
A. 1 B. 2 C. 3 B. 4

40. What is the modal number?
A. 1 B.4 C. 5 D. 7

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