

GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate Of Education Examination

0570 MATHEMATICS 1

JUNE 2023

ORDINARY LEVEL

Centre Number	
Centre Name	
Candidate Identification Number	
Candidate Name	

Mobile phones are NOT allowed in the examination room.

MULTIPLE CHOICE QUESTION PAPER

One and a half hours

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

- USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
- DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
Before the examination begins:
- Check that this question booklet is headed "ORDINARY LEVEL – 0570 MATHEMATICS 1"
- Fill in the information required in the spaces above.
- Fill in the information required in the spaces provided on the answer sheet using your HB pencil: **Candidate Name, Exam Session, Subject Code and Candidate Identification Number.** Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.
How to answer the questions in this examination
- Answer ALL the 50 questions in this Examination. All questions carry equal marks.
- Non-programmable Calculators are allowed.
- Each question has FOUR suggested answers: **A, B, C** and **D**. Decide which answer is appropriate. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.
For example, if **C** is your correct answer, mark **C** as shown below:
[A] [B] [C] [D]
- Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
- Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
- Do all your rough work in this booklet using the blank spaces in the question booklet.
- At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.

Turn Over

0570/1

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1. The value of the digit 7 in 64.176 is

- A $\frac{7}{10}$
 B $\frac{7}{100}$
 C 7
 D 70

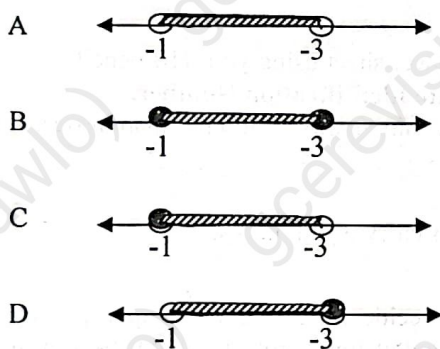
2. The H.C.F of $2^3 \times 3$ and $2 \times 3^2 \times 5$ is

- A $2 \times 3 \times 5$
 B $2^3 \times 3^2$
 C 2×3
 D $2^4 \times 3^2 \times 5$

3. The numbers 0.5, 0.4, 0, 0.25 arranged in ascending order gives

- A 0, 0.25, 0.4, 0.5
 B 0.25, 0.5, 0.4, 0
 C 0.5, 0.4, 0.25, 0
 D 0.25, 0.4, 0, 0.5

4. The number line that represents the set $Q = \{-1 < x \leq 3\}$ is



5. The number, $\sqrt{7}$, belongs to the set of

- A Integers
 B Natural Numbers
 C Rational Numbers
 D Irrational Numbers

6. The fraction "four-thirds" in figures is

- A $\frac{4}{3}$
 B $4\frac{1}{3}$
 C 4^3
 D $\frac{4}{1/3}$

7. Given that 0.00078 can be written as $a \times 10^n$, where $1 < a < 10$, then the value of n is

- A -3
 B 3
 C -4
 D 4

8. The number, 1949.46 to the nearest whole number is

- A 1949
 B 1950
 C 1940
 D 1900

9. In a class of 90 students, 25 are boys. The ratio of girls to boys is

- A 5 : 18
 B 18 : 5
 C 13 : 5
 D 5 : 13

10. The simple interest on 200,000FCFA at a rate of 3% after 5 years is

- A 30,000FCFA
 B 10,000FCFA
 C 15,000FCFA
 D 20,000FCFA

11. Given the sets $P = \{1, 3, 5, 6\}$ and $Q = \{2, 4, 7, 8\}$, then $n(P \cap Q)$ is

- A $\{0\}$
 B 0
 C \emptyset
 D $\{\emptyset\}$

12. Given the sets $F = \{\text{football players}\}$ and $G = \{\text{girls}\}$, the set notation for the statement "All girls play football" is
- A $G \cap F$
 - B $G \cup F$
 - C $G \subset F$
 - D $F \subset G$

13. Inset notation, the shaded region in figure 1 is

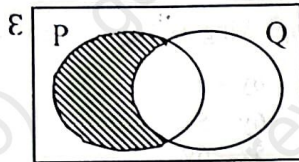


Figure 1

- A $P \cap Q'$
- B $P' \cap Q$
- C $Q' \cup P$
- D $P \cap Q$

14. Given that p: Adamu is hard working, q: Adamu is brilliant
The compound statement "Adamu is hard working and brilliant" is
- A an implication
 - B a conjunction
 - C a disjunction
 - D a proposition

15. For any function f , f^{-1} always maps its
- A image to the range
 - B range to its domain
 - C domain to its range
 - D domain to its codomain

16. Given that $f : x \mapsto 2x + 5$, then $f^{-1}(-3)$ gives
- A -3
 - B 1
 - C -1
 - D 3

17. Given that $f(x) = x$ and $g(x) = 3x - 2$, then the composite function $gf(x)$ is
- A $3x^2 - 2x$
 - B $\frac{x-2}{3}$
 - C $3x - 2$
 - D $\frac{x+2}{3}$

18. The distance from the centre of a circle to any point on the circumference is called
- A radius
 - B an arc
 - C a chord
 - D a diameter

19. Given that the exterior angle of a regular polygon is 30° , then its interior angle is
- A 30°
 - B 60°
 - C 12°
 - D 150°

20. The regular solid figure represented by the net in figure 2 is called

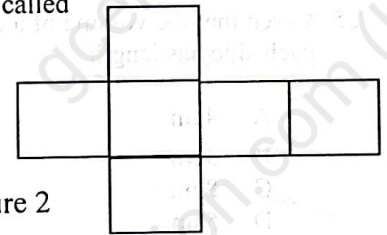


Figure 2

- A cube
- B cuboid
- C cylinder
- D square

21. The constructions shown in figure 3 is such that PQ is the perpendicular bisector of RS. The value of the angle PTS is

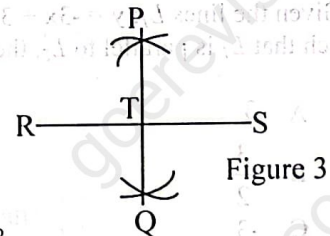


Figure 3

- A 180°
- B 60°
- C 45°
- D 90°

22. In figure 4, the value of angle p is

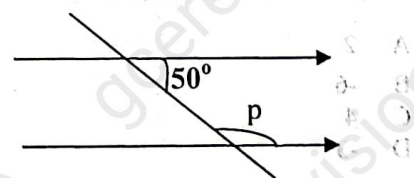


Figure 4

- A 160°
- B 50°
- C 130°
- D 40°

Turn Over

23. The perimeter of a rectangle is 24 cm. Given that its width is 5 cm, then its length is

- A 8cm
- B 7cm
- C 5cm
- D 4cm

24. Given that $\pi = \frac{22}{7}$ and the radius of a circle is 7cm, then the area of the circle is

- A 44cm^2
- B 154cm^2
- C 308cm^2
- D 22cm^2

25. Given that the volume of a cube is 64cm^3 , then each side has length

- A 4cm
- B 3cm
- C 8cm
- D 5cm

26. On the Cartesian plane, the line $y = 0$ is called the

- A Origin
- B x - axis
- C Ordinate
- D y - axis

27. Given the lines $L_1: y = -3x + 3$ and $L_2: y = mx - 2$ such that L_1 is parallel to L_2 , the value of m is

- A 3
- B $\frac{3}{2}$
- C -3
- D $\frac{1}{3}$

28. The x-coordinate of the mid-point M((x, y) of the points P(0, 3) and Q(4, -3) is

- A 2
- B -6
- C 4
- D -3

29. The number of terms in the expression $2ax + 3by - 1$ is

- A 7
- B 4
- C 2
- D 3

30. Simplifying $2^5 \times 2^{-3}$ gives

- A 2^{-15}
- B 2^{-2}
- C 2^2
- D 2^{-8}

31. Simplifying $3x - 6y - 2x$ gives

- A $6y - x$
- B $6y - 5x$
- C $5x - 6y$
- D $x - 6y$

32. Given that $P = \frac{E}{WL}$, an expression for W in terms of P, E and L is

- A $\frac{PL}{E}$
- B $\frac{E}{PL}$
- C PLE
- D $\frac{PE}{L}$

33. The next term in the sequence 3, 5, 8, 12, ... is

- A 17
- B 14
- C 16
- D 19

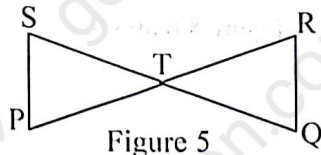
34. The range of values of x for which $7 + 2x < 11$ is

- A $x \leq 2$
- B $x < 2$
- C $x < 9$
- D $x \leq 9$

35. Given that the speed, V, of a car is inversely proportional to the time, t, then the equation relating V to t, where k is a constant is

- A $Vk = t$
- B $V = kt$
- C $V = \frac{k}{t}$
- D $Vk = \frac{1}{t}$

36. The number of regions in the network in figure 5 is



- A 6
B 2
C 5
D 3

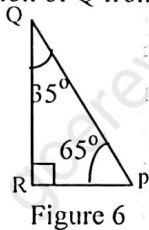
37. The longest side in a right-angled triangle is

- A Opposite
B Adjacent
C Hypotenuse
D Acute

38. Given that $\sin A = \frac{2}{3}$. The cosine of the angle complementary to angle A is

- A $\frac{2}{3}$
B $\frac{1}{3}$
C 1.0
D 1.5

39. The angle of elevation of Q from P, in figure 6 is



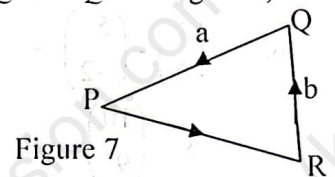
- A 65°
B 35°
C 90°
D 30°

40. Given the vectors $\mathbf{p} = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$ and $\mathbf{r} = \begin{pmatrix} -2 \\ -3 \end{pmatrix}$, then

$\mathbf{p} - \mathbf{r}$ is

- A $\begin{pmatrix} 0 \\ -4 \end{pmatrix}$
B $\begin{pmatrix} 4 \\ 2 \end{pmatrix}$
C $\begin{pmatrix} 0 \\ -2 \end{pmatrix}$
D $\begin{pmatrix} 4 \\ -4 \end{pmatrix}$

41. Given the vectors \overrightarrow{PQ} and \overrightarrow{QR} in figure 7, then \overrightarrow{PR} is



- A $a + b$
B $a - b$
C $-a + b$
D $-a - b$

42. Given the vector $\overrightarrow{OM} = 2\mathbf{i} + 3\mathbf{j}$, the direction of this vector is

- A $\tan^{-1}\left(\frac{2}{3}\right)$
B $\tan^{-1}\left(\frac{3}{2}\right)$
C $\tan\left(\frac{3}{2}\right)$
D $\tan^{-1} 5$

43. The leading diagonal elements of the matrix P,

where $P = \begin{pmatrix} 2 & 3 \\ 4 & 5 \end{pmatrix}$ are

- A 2 and 5
B 3 and 4
C 2 and 4
D 3 and 5

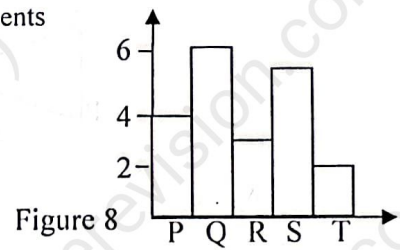
Turn Over

44. The determinant of the matrix $\begin{pmatrix} 4 & 5 \\ 1 & 2 \end{pmatrix}$ is
- A -3
B 3
C 13
D -13

45. The translation $\begin{pmatrix} 5 \\ -7 \end{pmatrix}$ maps the y-coordinate of the point (2, 5) to
- A 2
B -2
C 12
D -12

46. $\begin{pmatrix} 5 \\ 7 \end{pmatrix} - \begin{pmatrix} 5 \\ -2 \end{pmatrix} =$
- A $\begin{pmatrix} 10 \\ 9 \end{pmatrix}$
B $\begin{pmatrix} 0 \\ 9 \end{pmatrix}$
C $\begin{pmatrix} 0 \\ 5 \end{pmatrix}$
D $\begin{pmatrix} 0 \\ -5 \end{pmatrix}$

47. Figure 8 represents



- A Frequency
B Pie Chart
C Bar Chart
D Pictogram

48. The most popular mark scored in a test is called
- A Median
B Mean
C Data
D Mode

49. The median of the scores 3, 4, 1, 2, 2 is
- A 3
B 4
C 1
D 2

50. The probability that Mary passes a test is $\frac{2}{3}$.
The probability that she fails the test is
- A $\frac{1}{3}$
B $\frac{1}{9}$
C $\frac{4}{9}$
D $\frac{2}{3}$

STOP
GO BACK AND CHECK YOUR WORK