

SOUTH WEST REGIONAL MOCK EXAMINATION GENERAL/TECHNICAL AND VOCATIONAL EDUCATION

The Teachers' Resource Unit (TRU) in collaboration with the Regional Pedagogic Inspectorate and the South West Association of Mathematics Teachers (SWAMT)	Subject Code 0570	Paper Number 1
CANDIDATE NAME CANDIDATE NUMBER CENTRE NUMBER	Subject Title MATHEMATICS	
ORDINARY / INTERMEDIATE LEVEL	DATE: TUESDAY 28/03/2023 – AFTERNOON	

Time Allowed: One hour thirty minutes

INSTRUCTIONS TO CANDIDATES:

1. USE A SOFT HB PENCIL THROUGHOUT THIS EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Before the Examination begins:

3. Check that this question booklet is headed "Ordinary / Intermediate Level – 0570 Mathematics, Paper 1".
4. Insert the information required in the spaces provided above.
5. Without opening the booklet, pull out the answer sheet carefully from inside the front cover of this booklet. 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.
6. Insert the information required in the spaces provided on the answer sheet using your HB pencil:

Candidate Name, Centre Number, Candidate Number, Subject Code Number and Paper Number.

How to answer questions in this Examination:

7. Answer ALL the 50 questions in this examination. All questions carry equal marks.
8. Non-programmable calculators are allowed.
9. For each question there are four suggested answers, A, B, C, and D. Decide which answer is correct. 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:

$\left[\begin{matrix} A \\ \end{matrix} \right] \left[\begin{matrix} B \\ \end{matrix} \right] \left[\begin{matrix} C \\ \hline \end{matrix} \right] \left[\begin{matrix} D \\ \end{matrix} \right]$

10. Mark only one answer for each question. If you mark more than one answer, you will score zero for that question. If you change your mind about an answer, erase the first mark carefully, and then mark your new answer.
11. Avoid spending much time on any question. If you find a question difficult, move to the next question. You can come back to this question later.
12. Do all rough work in this booklet using, where necessary, the blank spaces in the question booklet.
13. Mobile phones are **NOT ALLOWED** in the examination room.
14. You must not take this booklet and answer sheet out of the examination room. All question booklets and answer sheets will be collected at the end of the examination.

1. Simplifying $3 \div \frac{1}{4}$ of $\frac{2}{3}$ gives

A	B	C	D
$\frac{1}{2}$	18	8	$\frac{1}{18}$

2. The value of 8 in 258314 is

A	Thousand
B	Tens of thousand
C	Tens
D	Units

3. The number 0.015 expressed in standard form is

A	1.5×10^{-2}
B	1.5×10^{-3}
C	1.5×10^2
D	1.5×10^3

4. The LCM of 8 and 12 is

A	B	C	D
96	8	12	24

5. Evaluating $\frac{2}{5} + \frac{8}{15}$ gives

A	B	C	D
$\frac{10}{20}$	$\frac{10}{15}$	$\frac{14}{15}$	$\frac{11}{15}$

6. The numbers $\frac{25}{4}$, -6, 2^2 , $\sqrt{27}$ arranged in ascending order is

A	$-6, 2^2, \sqrt{27}, \frac{25}{4}$
B	$-6, \sqrt{27}, 2^2, \frac{25}{4}$
C	$-6, 2^2, \frac{25}{4}, \sqrt{27}$
D	$-6, \frac{25}{4}, \sqrt{27}, 2^2$

7. The new taxi fare when the old one of 250 FCFA is increased by 20% is

A	270 FCFA
B	300 FCFA
C	370 FCFA
D	300 FCFA

8. The elements in the set $[-2, 2[$ are

A	$\{-2, -1, 0, 1, 2\}$
B	$\{-1, 0, 1, 2\}$
C	$\{-2, -1, 0, 1\}$
D	$\{-1, 0, 1\}$

9. Given the sets $A = \{1, 2, 3, 4, 6, 12\}$ and $B = \{3, 4, 6\}$. The relationship between sets A and B is

A	$A \cap B = A$
B	$A \cap B = \{\}$
C	$A \cup B = B$
D	$A \cup B = A$

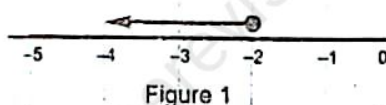
10. A trader paid 180.000 FCFA for 300 packs of biscuits. The cost of $1\frac{1}{2}$ pack of the same biscuit is

A	400 FCFA
B	900 FCFA
C	600 FCFA
D	450 FCFA

11. A football match started at 3:00 pm and was played for 105 minutes. The time the match ended was

A	B	C	D
4:45pm	4:30pm	4:35pm	4:15pm

- 12.



The number line in figure 1 can be represented by

A	$x < -2$
B	$x \geq -2$
C	$x > -2$
D	$x \leq -2$

13. The solution of the linear inequality $-3x + 1 < 4$ is

A	$x \leq -1$
B	$x > -1$
C	$x < -1$
D	$x \geq -1$

14. Given that $a = 1$ and $b = -3$, the value of $b^2 - a$ is

A	B	C	D
8	-10	-4	2

15. Given that $f: x \rightarrow -2x - 5$, the value of $f(-1)$ is

A	B	C	D
7	-7	3	-3

16. The domain of definition of the function

$$f: x \rightarrow \frac{2x}{2x-4} \text{ is}$$

A	$x \in \mathbb{R}, x \neq -2$
B	$x \in \mathbb{R}, x \neq 2$
C	$x \in \mathbb{R}, x \neq 4$
D	$x \in \mathbb{R}, x \neq -4$

17. Making v the subject in $k = \frac{1}{2}mv^2$ gives

A	B	C	D
$v = \sqrt{\frac{m}{2k}}$	$v = \sqrt{\frac{2k}{m}}$	$v = \sqrt{\frac{k}{2m}}$	$v = \sqrt{\frac{2m}{k}}$

18. Given that y varies directly as the square of x and $y = 8$ when $x = 2$. The value of the constant of proportionality, k is

A	B	C	D
6	10	2	8

19. In the Arithmetic Progression $\frac{3}{4}, x, \frac{5}{4}$ the value of x is

A	B	C	D
2	3	4	1

20. The coordinates of the y - intercept of the line $y - 3x = 5$ is

A	B	C	D
(0, -3)	(0, 3)	(0, 5)	(0, -5)

21. The midpoint of the line segment joining the points $A(6, 4)$ and $B(3, -4)$ is

A	B	C	D
$(4\frac{1}{2}, 0)$	$(1\frac{1}{2}, 0)$	(9, 0)	(3, 0)

22. Given the lines $L_1: 2y = -x + 4$
 $L_2: y - 4 = -x - 6$

$$L_3: -3y + 4 = 6x$$

$$L_4: x + y = -1$$

A pair of parallel lines is

A	L_1 and L_3
B	L_1 and L_4
C	L_3 and L_4
D	L_2 and L_4

23. The distance between the points $P(2, -1)$ and $Q(5, 3)$ is

A	B	C	D
$2\sqrt{13}$	5	$\sqrt{13}$	$\frac{4}{3}$

24. Given the vectors $\underline{u} = 3\mathbf{i} + 4\mathbf{j}$, and $\underline{v} = -3\mathbf{i} + 6\mathbf{j}$

The value of $\underline{u} - \underline{v}$ is

A	$6\mathbf{i} + 2\mathbf{j}$
B	$-6\mathbf{i} + 2\mathbf{j}$
C	$-6\mathbf{i} - 2\mathbf{j}$
D	$6\mathbf{i} - 2\mathbf{j}$

25. Given the vector $\vec{r} = -3\mathbf{i} - 4\mathbf{j}$, the magnitude $|\vec{r}|$ of $\vec{r}$ is

A	B	C	D
5	3	4	7

26. Given that $\vec{OB} = 4\mathbf{i} + \mathbf{j}$ and $\vec{AB} = \mathbf{i} + 3\mathbf{j}$, then the vector $\vec{OA}$ is

A	$-3\mathbf{i} + 2\mathbf{j}$	
B	$-3\mathbf{i} - 2\mathbf{j}$	
C	$3\mathbf{i} - 2\mathbf{j}$	
D	$3\mathbf{i} + 2\mathbf{j}$	

27. The solution of the equation $(x - 3)(2x + 1) = 0$ is

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

28. The equation $ax^2 + x - 6 = 0$ has one solution as $x = -2$, the value of a is

A	B	C	D
1	-2	2	-1

29. Expanding the expression $(3x - 4)(4x + 5)$ gives

A	$12x^2 + x - 20$
B	$12x^2 + 31x - 20$
C	$12x^2 - 31x - 20$
D	$12x^2 - x - 20$

30.

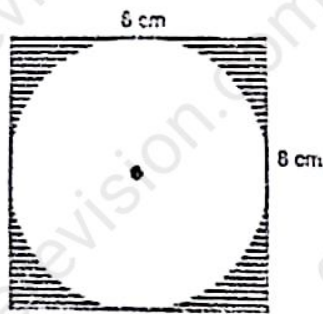


Figure 2

The area in terms of π of the shaded region in figure 2 is

A	$(16 - 8\pi)\text{cm}^2$
B	$(64 - 16\pi)\text{cm}^2$
C	$(64 - 8\pi)\text{cm}^2$
D	$(16 - 4\pi)\text{cm}^2$

31. The length of a rectangular field of area 50cm^2 is twice its width, the perimeter of the field in cm is

A	B	C	D
30	25	10	20

32.

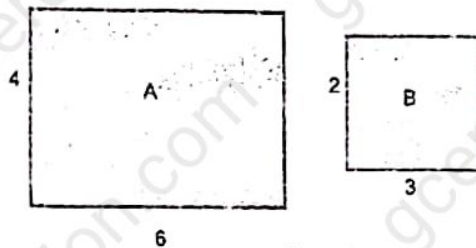


Figure 3

The diagrams in figure 3 show two similar rectangles labelled A and B. The ratio of the area of A to the area of B is

A	B	C	D
2:1	4:1	6:1	3:1

33.

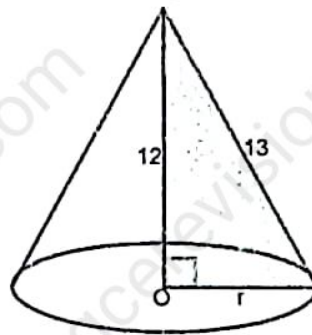


Figure 4

In figure 4, the value of r is

A	B	C	D
1	25	$\sqrt{50}$	5

34.

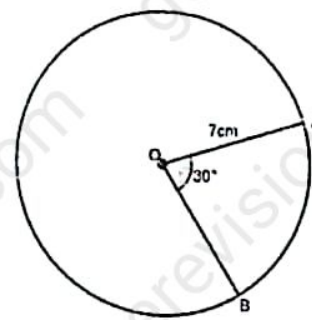


Figure 5

Figure 5 is a circle with center O and radius 7cm, subtending an angle of 30° from the center. The area in terms of π of the region OAB in square units is

A	B	C	D
$\frac{49\pi}{12}$	49π	210π	$\frac{210\pi}{12}$

35.

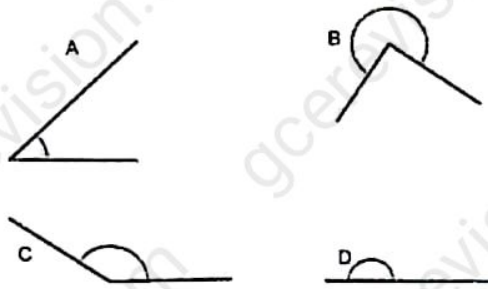


Figure 6

In figure 6 the diagram that represent a reflex angle is

A	B	C	D
A	B	C	D

36. The transpose of the matrix $\begin{pmatrix} 4 & 5 \\ -3 & 2 \end{pmatrix}$ is

A	B	C	D
$\begin{pmatrix} 4 & 3 \\ -5 & 2 \end{pmatrix}$	$\begin{pmatrix} 4 & -3 \\ 5 & -2 \end{pmatrix}$	$\begin{pmatrix} 4 & -3 \\ 5 & 2 \end{pmatrix}$	$\begin{pmatrix} 4 & -3 \\ -5 & 2 \end{pmatrix}$

37. The sum of 3, x, 24 and 1 is 36, the value of x is

A	B	C	D
6	10	8	4

38. Given that $f(x) = 2x - 6$. The element in the domain of $f(x)$ that has image 4 is

A	B	C	D
4	5	6	2

39. Evaluating $a^2 b^{-2} \times a^{-5} b^6$ gives

A	$a^{-3} b^4$
B	$a^{-3} b^{-4}$
C	$a^{-3} b^8$
D	$a^{-3} b^4$

40. Given that the radius of a circle is 7cm and using $\pi = \frac{22}{7}$, the circumference of the circle is

A	B	C	D
44cm	77cm	154cm	22cm

41.

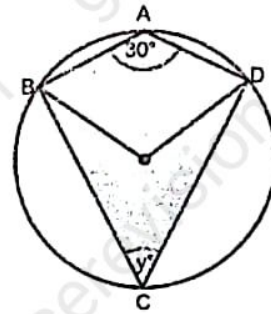


Figure 7

The angle marked y° in figure 7 is

A	B	C	D
30°	150°	50°	130°

42. The volume calculated to one decimal place of a cylinder of height 9cm and base radius 6cm, taking $\pi = \frac{22}{7}$ is

A	1018.3 cm^3
B	1018.2 cm^3
C	169.7 cm^3
D	169.8 cm^3

43.

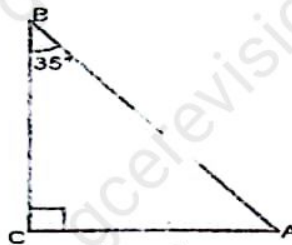


Figure 8

Figure 8 shows the angle of depression of A from B at 35° . The angle of elevation of B from A is

A	B	C	D
35°	135°	55°	90°

44. Given that $\tan \theta = \frac{3}{4}$, the value of $\cos \theta =$

A	B	C	D
$\frac{4}{3}$	$\frac{3}{5}$	$\frac{3}{4}$	$\frac{4}{5}$

