0570 MATHEMATICS 1

APRIL . 2021 ORDINARY LEVEL

GOVERNMENT BILINGUAL HIGH SCHOOL MOCK	SUBJECT CODE NUMBER 0570	PAPER NUMBER 1
CANDIDATE NAME: ..... CANDIDATE NUMBER:.....	SUBJECT TITLE MATHEMATICS	
ORDINARY LEVEL	DATE:	

Mobile Phones Are Not allowed in the examination room.

MULTIPLE CHOICE QUESTION PAPER

One and 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.

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

Before the examination begins:

3. Check that this question paper is headed "Ordinary Level – 570 Mathematics 1"
4. Insert the information required in the spaces above.
5. Insert the information required in the spaces provided on the answer sheet using an HB pencil: Candidate Name. Centre Number and Name, Candidate Number, Subject Code Number and Paper 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

6. Answer ALL the 50 questions in this examination. All questions carry equal marks.
7. Non programmable calculators are allowed.
8. Each question has FOUR suggested answers: A, B, C and D. Decide on 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:

   [A] [B] [■] [D]
9. 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.
10. Avoid spending too much time on any one question. If you find a question difficult, move to the next question. You can come back to this question later.
11. Do all rough work in this question paper, using, where necessary, the blank spaces in the question paper.
12. At the end of the examination, the invigilator shall collect the answer sheet first and then the question paper after. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.

Turn Over

12. The universal set ε = {1, 2, 3, ..., 20}. given that
$P = \{X: X\ is\ a\ multiple\ of\ 3\}$ and
$Q = \{X: X\ is\ an\ even\ number\}$ are subsets of ε, then $n(P \cap Q)$ equals

A 6
B 3
C 2
D 1

13. Simplifying $2m - 3m + 2$ gives

A $2 - m$
B $m - 2$
C $5m + 2$
D $m + 2$

14. The expression $9 - X^2$ when factorized Completely gives

A $(X - 3)(X + 3)$
B $9(1 - X^2)$
C $(3 - X)(3 + X)$
D $3(3 - X^2)$

15. $\frac{X+1}{3} - \frac{X-2}{2}$ expressed as a single fraction

A $\frac{-X-4}{6}$
B $\frac{5X-8}{6}$
C $\frac{8-X}{6}$
D $\frac{X-8}{6}$

16. The value of the expression $2X + 3Y + 4XY$ For which $X = 2$ and $Y = -4$ is

A -16
B 48
C -40
D 24

17. Given that $2^{x+2} = 8^{\frac{1}{2}x}$, the value of x is

A -4
B 2
C 3
D 4

18. The geometric progression in the following Sequence is

A 1,2,3,4, ...
B 2,4,6,8, ...
B 1,2,7, ...
D 3,6,12, ...

19. Given that y varies inversely as square of x and y = 1 when x = 4, then the value of y when x = 2 is

A $\frac{1}{4}$
B $\sqrt{2}$
C 4
D 2

20. Given the inequality $6 - 2x < 18$, the range of values of x is

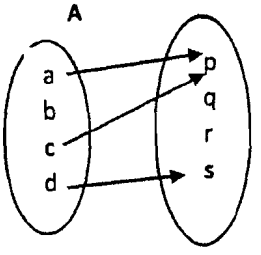
A $X < 6$
B $X > -6$
C $X < -6$
D $X > 6$

21. Expressing x in terms of y in the equation $3x + y = 9x$ gives

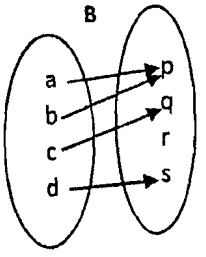
A $\frac{6}{Y}$
B $\frac{9-Y}{3}$
C $\frac{Y}{6}$
D $Y + 3$

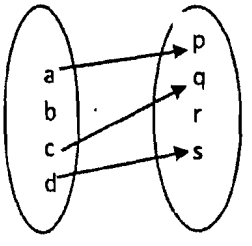
22. The function in the following arrow diagram is

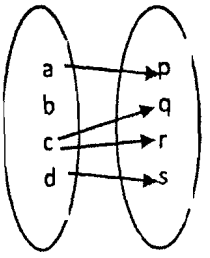
A



B







36. The solution set of $(x+3)(x-2) > 0$

A $[-3, 2]$

B $[-3, 2[$

C $]-3, 2[$

D $]-3, 2]$

37. Given that $2^{2x} = \frac{1}{64}$ then, the value of x satisfying the equation is

A –6

B –3

C 3

D 6

38. The sum of the first n terms in a sequence is given by $S_n = 2n(n-1)$. The second term is

A 8

B 0

C 4

D 2

39. Given that y is inversely proportional to x, and y = 20 when x = 3, then the value of x when y = 4 is

A 15

B $\frac{3}{5}$

C $1\frac{2}{3}$

D $1\frac{1}{3}$

40. Figure 4 is a network. The number of arcs is

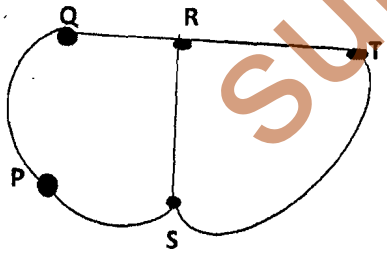


Fig. 4

A 5

B 6

C 3

D 2

41. Given that $\sin\theta = \frac{3}{5}$ and θ is an obtuse angle, then $\cos\theta$ equals

A $-\frac{4}{5}$

B $\frac{4}{5}$

C $-\frac{5}{4}$

D $-\frac{3}{5}$

42. Given that $\overrightarrow{OP} = \begin{pmatrix} 4 \\ 3 \end{pmatrix}$ and $\overrightarrow{OQ} = \begin{pmatrix} 0 \\ m \end{pmatrix}$ The value of m when $|\overrightarrow{OP}| = |\overrightarrow{OQ}|$ for $m > 0$ is

A 7

B 1

C 25

D 5

43. Figure 5 is a vectogram with $\overrightarrow{OP} = a$ and $\overrightarrow{OQ} = -b$. In terms of a and b, $\overrightarrow{QP}$ equals

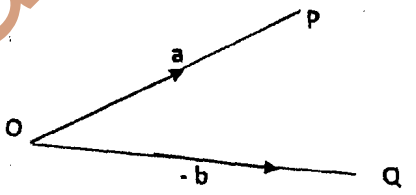


Fig. 5

A b – a

B b + a

C a – b

D –b – a

44. The order of the matrix M = $\begin{pmatrix} 2 & 4 \\ 5 & 0 \\ 16 & 5 \end{pmatrix}$ is

A 2 X 3

B 3 X 2

C 2 X 4

D 4 X 2

45. The transpose of the matrix T = $\begin{pmatrix} 3 & -1 \\ 5 & 2 \end{pmatrix}$

A $\begin{pmatrix} 3 & 5 \\ -1 & 2 \end{pmatrix}$

C $\begin{pmatrix} 3 & 1 \\ -5 & 2 \end{pmatrix}$

B $\begin{pmatrix} -1 & 3 \\ 2 & 5 \end{pmatrix}$

D $\begin{pmatrix} 3 & -5 \\ 1 & -2 \end{pmatrix}$