

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD
General Certificate of Education Examination

0570 MATHEMATICS 1

JUNE 2017

ORDINARY LEVEL

Centre Number	
Centre Name	
Candidate Identification No.	
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.

1. USE A SOFT HB PENCIL THROUGHOUT THE 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 "0570 Mathematics 1 - Ordinary Level"
4. Fill in the information required in the spaces above.
5. 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

6. Answer **ALL** the 50 questions in this Examination. All questions carry equal marks.
7. **Calculators are allowed.**
8. Each question has **FOUR** suggested answers: **A, B, C** and **D**. Decide on 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]
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 on to the next question. You can come back to this question later.
11. Do all rough work in this booklet using the blank spaces in the question booklet.
12. **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 ANY.**

Turn Over

1. Evaluating $\frac{5}{8} \div \frac{5}{4} - \frac{3}{4} \times 1\frac{1}{3}$ gives

A $\frac{1}{2}$

~~X~~ $-\frac{1}{2}$

C $\frac{25}{32}$

D $-\frac{7}{32}$

2. The value of the digit 5 in 0.0513 is

A 5 units

~~X~~ 5 hundreds

C 5 tens

D 5 hundredths

3. The product $y^a \cdot y^{2a}$ simplifies to

A $(2y)^{3a}$

~~X~~ y^{3a}

C y^{3a^2}

D y^{4a}

4. At town P, the temperature is -10°C . At town Q, the temperature is 30°C . The increase in temperature between towns P and Q is

~~A~~ 40°C

~~B~~ 20°C

C -40°C

D -20°C

5. $\sqrt{45}$ simplifies to

A 15

B $5\sqrt{3}$

C $9\sqrt{5}$

~~D~~ $3\sqrt{5}$

6. 0.08 converted to a fraction is

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

~~B~~ $\frac{2}{25}$

C $\frac{8}{25}$

D $\frac{4}{55}$

Handwritten notes: $0.08 = \frac{8}{100} = \frac{2}{25}$

7. Given the sets of numbers, N, Z and Q, the true statement is

~~A~~ $0 \in \text{N}$

B $-\frac{5}{3} \in \text{Z}$

~~C~~ $\sqrt{3} \in \text{Q}$

D $\frac{12}{4} \in \text{N}$

8. The number 0.004789 expressed to three significant figures gives

A 0.004

B 0.005

~~C~~ 0.00479

D 0.00478

9. 0.013×4 expressed in standard form gives

A 5.2×10^{-4}

~~X~~ 5.2×10^{-2}

C 5.2×10^{-1}

D 5.2×10^{-3}

10. At a certain period an exchange rate was 1 US dollar = 510 FCFA and 1 Euro = 1.75 dollars. A car in Europe was bought for, 2,000 Euro. The cost of the car in FCFA is

~~X~~ 1,785,000

B 1,020,000

C 178,500

D 102,000

11. An exercise book costs 250 FCFA and is sold at a profit of 20%. The selling price in FCFA will be

~~A~~ 300

B 270

C 230

D 290

12. A map showing two towns which are 6km apart has a scale of 1: 20000. The actual distance, in km, between the two towns is

A 30

B 60000

~~C~~ 120000

D 6000

Handwritten notes: $6 \times 20000 = 120000$

13. The shaded region in the Venn diagram represents

~~A~~ $P \cap Q$

B $P \cap Q'$

C $P \cup Q'$

D $P' \cup Q$

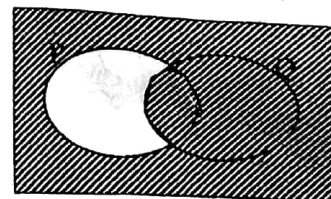


Fig. 1

14. Given that $M = \{2, 4, 6, 8, 10\}$ and $N = \{1, 3, 5, 7, 9\}$, then $M \cap N$ is
 A 0
 B $\{\emptyset\}$
 C \emptyset
 D $\{0\}$

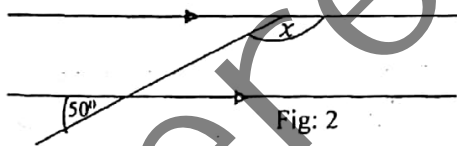
15. Consider the statements p : Lum is short and q : Lum is fat. Then the statement "Lum is short and not fat" is written in symbolic form as
 A $\sim p \wedge q$
 B $p \wedge \sim q$
 C $\sim(\sim p \wedge q)$
 D $\sim p \wedge \sim q$

16. If p represents a rectangular plane and q represents a square plane, then
 A $p \Rightarrow q$
 B $p \Leftrightarrow q$
 C $q \Rightarrow p$
 D $q \Rightarrow \sim p$

17. In a relation the elements of the second set (Codomain) that are associated with the elements of the first set (Domain) are called
 A the range
 B Images
 C one to one
 D inverse

18. Given that $f(x) = 2x + 6$, then the value of x when $f(x) = 4x$ is
 A 1
 B 2
 C 3
 D 6

19. The value of the angle marked x in figure 2 is



- A 40°
 B 150°
 C 140°
 D 130°

20. Given that each interior angle of a regular polygon is 160° , then the number of sides of the polygon is
 A 9
 B 10
 C 18
 D 20

21. A rectangle has sides in the ratio 1:1. The special name for this rectangle is a
 A Square
 B Trapezium
 C Kite
 D Triangle

22. Figure 3 is a circle with centre O and PT is a tangent. Angle $TOP = 72^\circ$. The size of angle OPT is

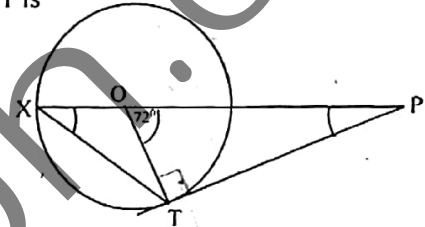


Fig. 3

- A 36°
 B 18°
 C 72°
 D 26°

23. One angle of a right-angled triangle is 35° , the third angle is
 A 125°
 B 215°
 C 55°
 D 65°

24. Figure 4 shows two similar triangles PQR and KLM . Given that the area of triangle PQR is 18cm^2 , then the area of triangle KLM in cm^2 is

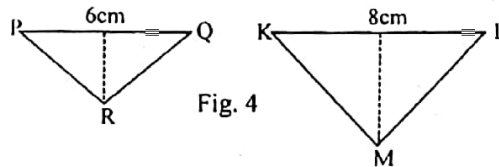


Fig. 4

- A 36
 B 72
 C 32
 D 24

Turn Over

25. The length of a rectangle is three times its width. Given that the width is 5cm, the area in cm^2 of the rectangle is

- A 15
- B 20
- C 30
- D 75

$L = 5 \times 3 = 15 \text{ cm}$
 $W = 5 \text{ cm}$
 $A = L \times W$
 $= 15 \text{ cm} \times 5 \text{ cm} = 75 \text{ cm}^2$

29. The length of the line segment joining the points (1, 5) and (4, 1) is

- A 10 units
- B 5 units
- C 4 units
- D 7 units

26. In figure 5, O is the centre of the circle. The area of the shaded sector, in terms of π , is

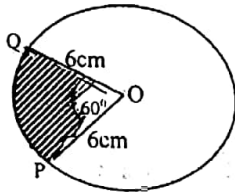


Fig. 5

- A $36\pi \text{ cm}^2$
- B $30\pi \text{ cm}^2$
- C $6\pi \text{ cm}^2$
- D $3\pi \text{ cm}^2$

27. In figure 6, the coordinates of the point Q are

- A (2, -4)
- B (4, -2)
- C (-2, 4)
- D (-4, 2)

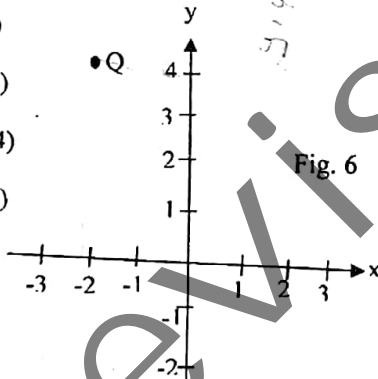


Fig. 6

28. Given the lines $l_1: 3x + 2y = 3$ and $l_2: mx - 2y = 4$ such that l_1 is parallel to l_2 , then, the value of m is

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

30. Simplifying the expression $\frac{t^2-9}{2t+6}$ results to

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

$\frac{t^2-9}{2t+6}$
 $\frac{(t-3)(t+3)}{2(t+3)}$
 $\frac{t-3}{2}$

31. Simplifying $3(x - 2y) - 4(x - 5y)$ gives

- A $14y - x$
- B $7x - 26y$
- C $14y + x$
- D $-x - 26y$

$3(x - 2y) - 4(x - 5y)$
 $3x - 6y - 4x + 20y$
 $-x + 14y$

32. The formula for the area of a triangle is $A = \frac{1}{2}bh$. Then $b =$

- A $\frac{2A}{h}$
- B $\frac{b}{2A}$
- C $2Ah$
- D Ah

33. The value of $\frac{7y+3}{5x}$ when $x = 2$ and $y = 1$ is

- A 0.4
- B 1
- C 1.7
- D 1.1

$\frac{7y+3}{5x}$
 $\frac{7(1)+3}{5(2)}$
 $\frac{10}{10} = 1$

34. The solution of the simultaneous equations as a point is

$$\begin{aligned} y &= 2x - 12 \\ 3x + 5y &= 5 \end{aligned}$$

- A (5, 2)
- B (4, -3)
- C (5, -2)
- D (10, 7)

35. Given that $f(x) = x^3 - 4x^2 + cx + 6$, then the value of c for which $f(3) = 0$ is

- A -1
- B 0
- C 2
- D 1

36. The solution of $-\frac{k}{4} + 3 \leq -1$ is

- A $k \leq 16$
- B $k \geq -8$
- C $k \leq -8$
- D $k \geq 16$

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. Given the sequence 48, 35, 24, 15, ... then the next number in the sequence is

- A 8
- B 11
- C 9
- D 13

39. Given that y varies directly as the square of x such that when $x = 1, y = 1$, then the equation of this variation is

- A $x = yx$
- B $y = x^2$
- C $(xy)^2 = 1$
- D $x^2 = y^2$

40. Given a network with 5 nodes and 4 regions, the number of arcs is

- A 8
- B 7
- C 6
- D 5

41. PQR is a right-angled triangle with sides as shown in Fig 6. The value of y is

- A 8
- B 7
- C 6
- D 12



Fig. 6

42. Given that in figure 7, PSR is a straight line and angle SPQ = 90° then $\cos \theta$ is

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

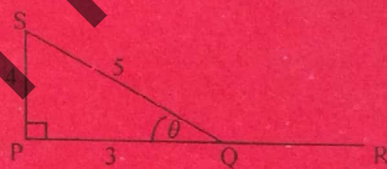


Fig. 7

43. Given two position vectors $\vec{OP} = i + 5j$ and $\vec{OQ} = 3i - 9j$ with m the midpoint of PQ then the position vector of m is

- A $-i + 7j$
- B $-i + 2j$
- C $i - 7j$
- D $2i - 2j$

44. In figure 8, $\vec{OP} = \underline{p}$, $\vec{OQ} = 2\underline{q}$ and X is a point on \vec{PQ} such that $PX : XQ = 1 : 2$, then the vector \vec{OX} is

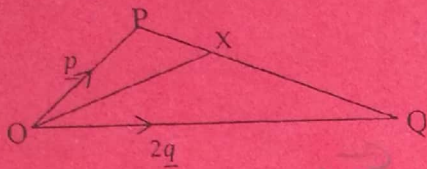


Fig: 8

- A $\frac{2}{3}(\underline{p} + \underline{q})$
- B $\frac{1}{3}(10\underline{p} - \underline{q})$
- C $\frac{1}{2}(\underline{p} + 2\underline{q})$
- D $\frac{1}{3}(4\underline{q} - 2\underline{p})$

45. The value of y for which $\begin{vmatrix} 3 & y \\ 2 & 6 \end{vmatrix} = 0$ is

- A -9
- B 1
- C 4
- D 9

46. Given the matrices $P = \begin{pmatrix} 1 & -1 \\ -1 & 2 \end{pmatrix}$ and $Q = \begin{pmatrix} 3 \\ -1 \end{pmatrix}$, then the product PQ is

- A $\begin{pmatrix} 4 \\ -5 \end{pmatrix}$
- B $\begin{pmatrix} -4 \\ 5 \end{pmatrix}$
- C $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$
- D $\begin{pmatrix} 0 \\ 1 \end{pmatrix}$

47. The 2×2 transformation matrix $T = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$ represents

- A Reflection in the line $y = x$
- B Reflection in the line $y = -x$
- C Rotation 90° clockwise about the origin $(0, 0)$
- D Rotation 90° anticlockwise about the origin $(0, 0)$

48. In a given test, the scores of some students were displayed thus: 19, 20, 1, 2, 3, 4, 5, 10, 10, 12, 13, 13, 14, and 19. The range of the scores is

- A 0
- B 20
- C 18
- D 19

49. The Pie chart in figure 9 represents grades obtained in a certain examination with 50 candidates having grade D. The number of candidates with grade C is

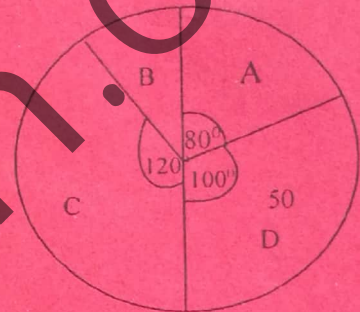


Fig. 9

- A 60
- B 70
- C 100
- D 130

50. The probability of getting a multiple of three when a die is rolled is

- A $\frac{2}{3}$
- B $\frac{1}{6}$
- C $\frac{1}{3}$
- D $\frac{5}{6}$

STOP

GO BACK AND CHECK YOUR WORK