



EXAMINATIONS COUNCIL OF ZAMBIA

JUNIOR SECONDARY SCHOOL LEAVING EXAMINATION (GRADE 9) – 2019

Mathematics 401/1

Paper 1

(INTERNAL CANDIDATES)

Time: 2 hours

Marks: 50

No Reading Time

Instructions to candidates

- 1 Pull out the **Answer Sheet** from the question paper.
- 2 Write your name, examination number and school/centre on the **Answer Sheet**.
- 3 There are **two (2)** sections in this question paper, Section A and B.
- 4 Answer **all** the questions in both sections on the Answer Sheet provided.
- 5 In Section A, for each question, **four (4)** suggested answers are given, A, B, C and D. Choose the correct answer and show it on the Answer Sheet by marking it with a cross (X).

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For example, if the answer is D

A	B	C	☒ D
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- 6 No paper for rough work is to be provided. Any working should be done on the question paper in the spaces provided.
- 7 Only the **Answer Sheet** should be handed in.

Information for candidates

Cell phones and calculators are not allowed in the examination room.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO



ANSWER SHEET FOR GRADE 9 MATHEMATICS PAPER 1 – 2019

Name of Candidate:

Examination No.:

School/Centre:

Total Marks:

Section A

For each question, mark your choice with a cross (X).

1				2				3				4				5			
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D

6				7				8				9				10			
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D

Total Mark for Section A

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Section B

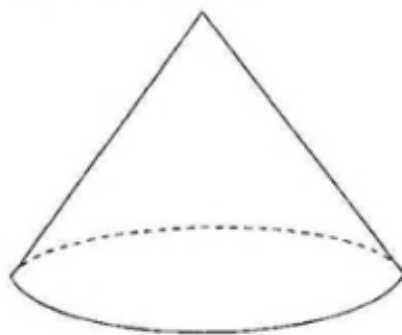
Write your answers in the spaces provided. Working must **NOT** be done on this paper.

11 (a) (b)	21
12	22
13	23
14	24
15	25 (a) (b)
16	26
17	27
18	28
19	29
20	30

Total Mark for Section B

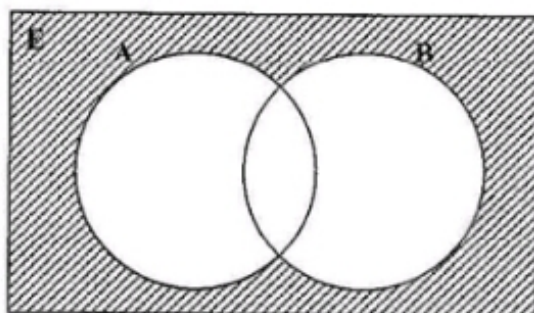
SECTION A [10 marks]

- 1 Evaluate $6 - (-3)$.
A 18
B 9
C 3
D -3
- 2 Write 357 861 correct to three significant figures.
A 360 000
B 359 000
C 358 000
D 357 000
- 3 Find the value of $3^3 - 2^2$.
A 5
B 13
C 23
D 31
- 4 What of the following is an input device?
A Headphones
B Microphones
C Printer
D Speaker
- 5 What is the name of the figure below?



- A Cone
B Polygon
C Prism
D Pyramid
- 6 Which of the following is an irrational number?
A 0.4
B 3
C $\sqrt{7}$
D $\sqrt{9}$

- 7 Using set notation, describe the shaded region shown in the Venn diagram below.



- A $A' \cap B'$
 B $A \cup B$
 C $A' \cup B'$
 D $A \cap B$
- 8 The table shows the distribution of scores in a Mathematics test in a Grade 9 class.

Score	Frequency
10	1
20	8
30	5
40	4
50	2

What is the modal score?

- A 30
 B 20
 C 8
 D 5
- 9 A solid wooden block has mass 600 g and volume 1 200 cm³. Calculate the density of the wooden block.
- A 720 000 g/cm³
 B 1 800 g/cm³
 C 2 g/cm³
 D 0.5 g/cm³

- 10 Palibe and Tapaba shared K30.00 in the ratio 2:3 respectively. How much more did Tapaba receive compared to Palibe?

Space for
working

- A K6.00
- B K12.00
- C K18.00
- D K24.00

SECTION B [40 marks]

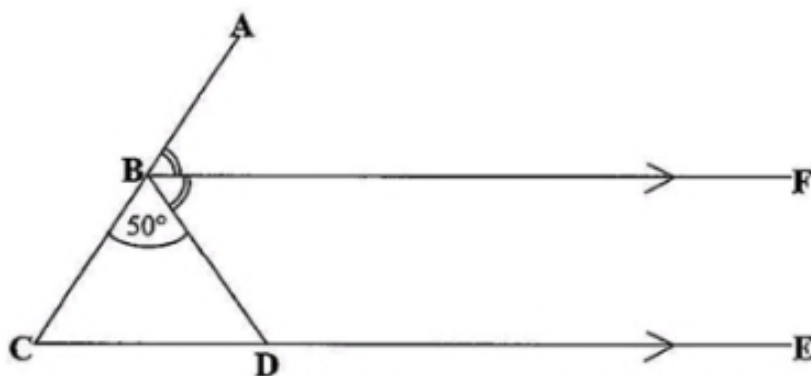
- 11 Given that matrix $P = \begin{pmatrix} 3 & 1 & 0 \\ 0 & 3 & -2 \end{pmatrix}$,

- (a) state the order of matrix P ,
- (b) find $2P$.

- 12 Given that $x = 3$, $y = -1$ and $z = 0$, find the value of $2x - y + 3z$.

- 13 Factorise completely $5a^2 + 25a$.

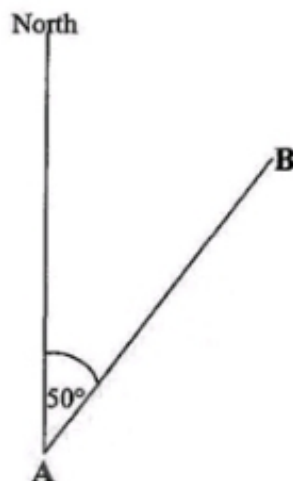
- 14 In the figure below, BF is parallel to CE , BF bisects angle ABD and angle $CBD = 50^\circ$.



Calculate the size of angle BDE .

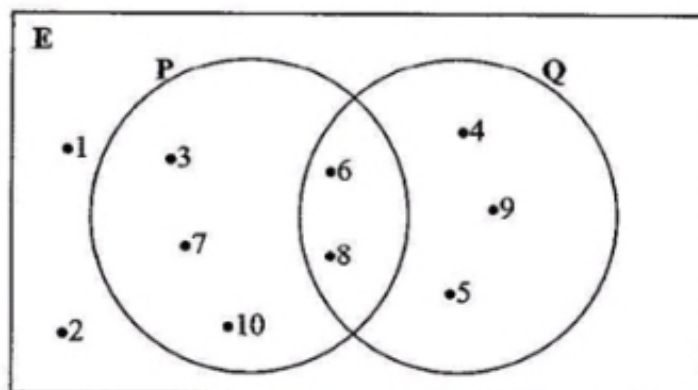
- 15 Convert 7.125 to base 2.
- 16 Mr. Mali invested K48 000.00 at 20% per annum. Find his interest after 9 months.

- 17 In the diagram below, **B** is on a bearing of 050° from **A**.



Calculate the bearing of **A** from **B**.

- 18 Solve the equation $3 + 2(x - 1) = 1$.
- 19 Simplify $4x^2 + 2x - x^2 + 3x$.
- 20 The Venn diagram below shows sets **P** and **Q**.

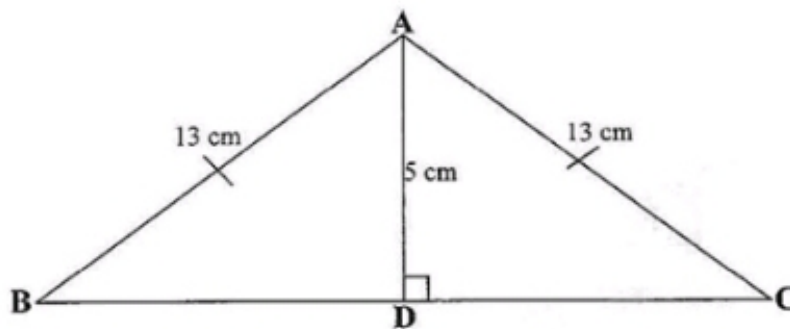


List the elements of $P' \cap Q$.

- 21 Given that $f(x) = \frac{3x-2}{2}$, find $f(3)$.
- 22 Solve the inequation $2x + 1 > 5$.

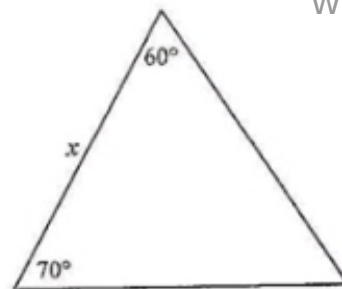
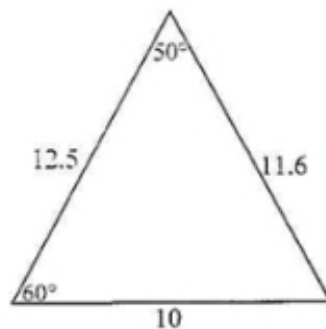
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- 23 In the diagram below, $\triangle ABC$ is an isosceles triangle with $AC = AB = 13$ cm.



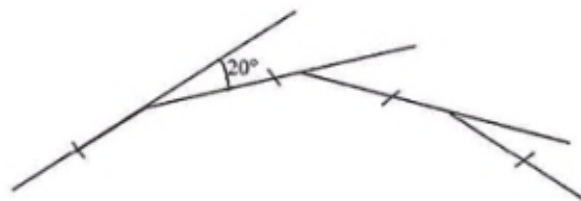
Calculate the length of BC .

- 24 Find the value of $\sqrt{64} - \sqrt[3]{27}$.
- 25 Mrs Malaiti bought 250 units of electricity at K0.25 per unit for the first 200 units and the rest at K0.60.
- (a) How much did she pay for the first 200 units?
- (b) Calculate the total cost of the units of electricity Mrs Malaiti bought.
- 26 The two triangles below are congruent.



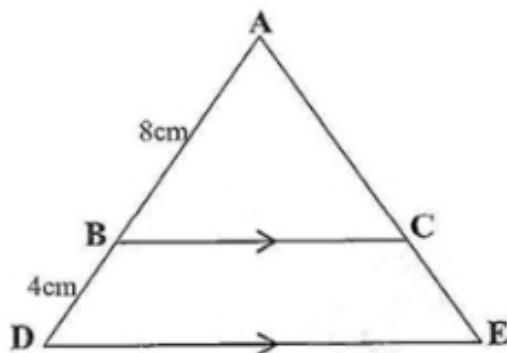
Find the value of x .

- 27 The diagram below shows part of a regular polygon. The exterior angle of the polygon is 20° .



Find the number of sides of this regular polygon.

- 28 In the diagram below, triangle **ABC** is similar to triangle **ADE**, **AB** = 8 cm and **BD** = 4 cm.



- Find the ratio of **BC** to **DE** in its simplest form.
- 29 Find the median of the following numbers: 3, 2, 1, 1, 0, 1, 1, 2, 3.
- 30 Given that x° and 88° are supplementary angles, find the value of x .