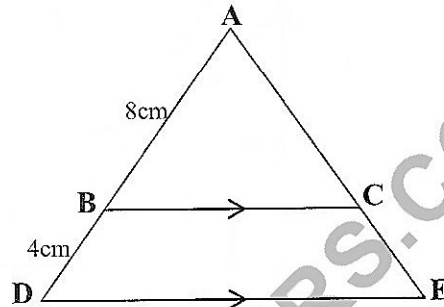


- 28 In the diagram below, triangle **ABC** is similar to triangle **ADE**, **AB** = 8 cm and **BD** = 4 cm.



- 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  $x^\circ$  and  $88^\circ$  are supplementary angles, find the value of  $x$ .

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**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

[zedpastpapers.com](http://zedpastpapers.com)

**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**).

For example, if the answer is D

A	B	C	<input checked="" type="checkbox"/> D
---	---	---	---------------------------------------

- 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**

**Section B**

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

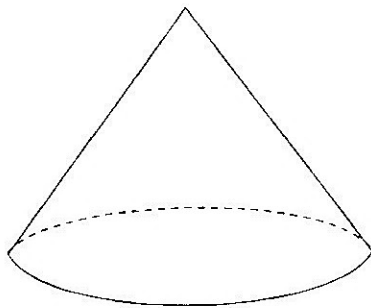
11 (a)	(b)	21
12		22
13		23
14		24
15		25 (a) (b)
16		26
17		27
18		28
19		29
20		30

**Total Mark for Section B**

Space for  
working

## SECTION A [10 marks]

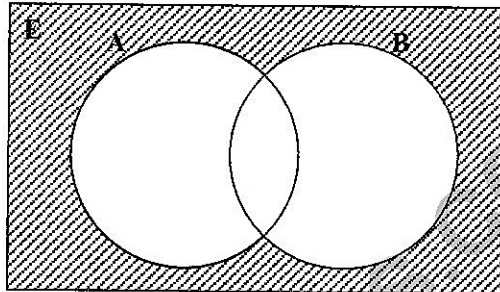
- 1 Evaluate  $6 - (-3)$ .
- A 18  
B 9  
C 3  
D -3
- 2 Write 357 861 correct to three significant figures.
- A 360 000  
B 359 000  
C 358 000  
D 357 000
- 3 Find the value of  $3^3 - 2^2$ .
- A 5  
B 13  
C 23  
D 31
- 4 What of the following is an input device?
- A Headphones  
B Microphones  
C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

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- 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.

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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 cm<sup>3</sup>. Calculate the density of the wooden block.
- A 720 000 g/cm<sup>3</sup>
  - B 1 800 g/cm<sup>3</sup>
  - C 2 g/cm<sup>3</sup>
  - D 0.5 g/cm<sup>3</sup>

- 10 Palibe and Tapaba shared K30.00 in the ratio 2:3 respectively. How much more did Tapaba receive compared to Palibe?
- A K6.00  
 B K12.00  
 C K18.00  
 D K24.00

Space for  
working

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  $P$ ,

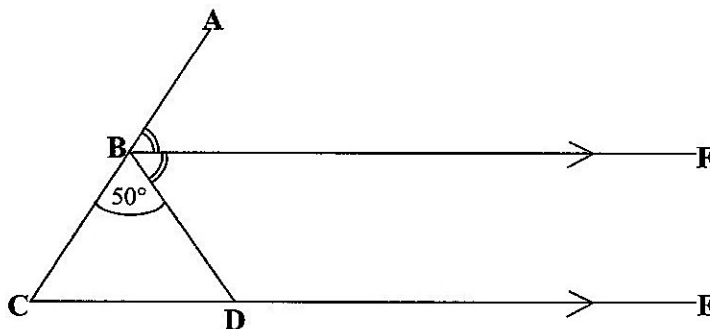
(b) find  $2P$ .

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

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

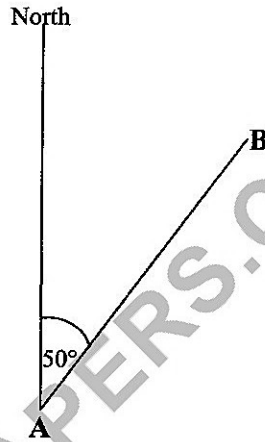
- 14 In the figure below,  $BF$  is parallel to  $CE$ ,  $BF$  bisects angle  $ABD$  and angle  $CBD = 50^\circ$ .



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  $050^\circ$  from **A**.



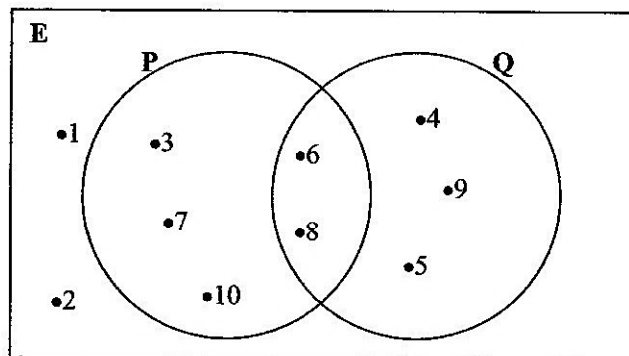
Calculate the bearing of **A** from **B**.

- 18 Solve the equation  $3 + 2(x - 1) = 1$ .

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- 19 Simplify  $4x^2 + 2x - x^2 + 3x$ .

- 20 The Venn diagram below shows sets **P** and **Q**.



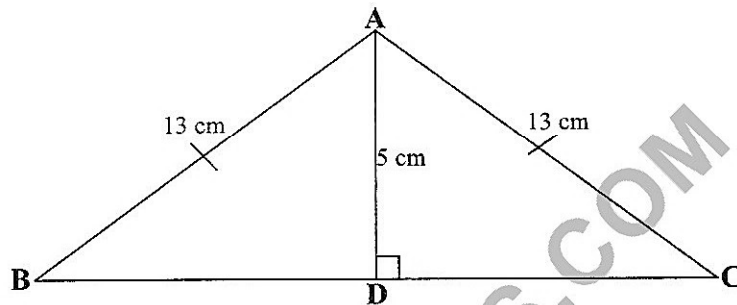
List the elements of  $P' \cap Q$ .

- 21 Given that  $f(x) = \frac{3x-2}{2}$ , find  $f(3)$ .

- 22 Solve the inequation  $2x + 1 > 5$ .

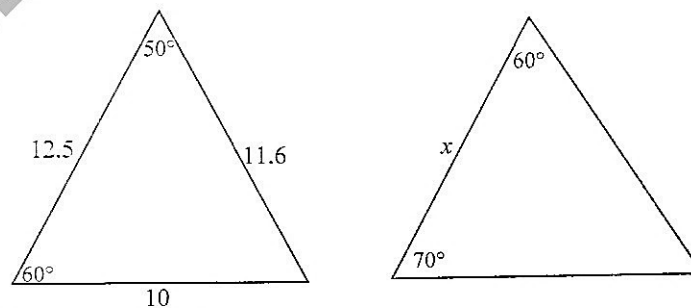
Space for  
working

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



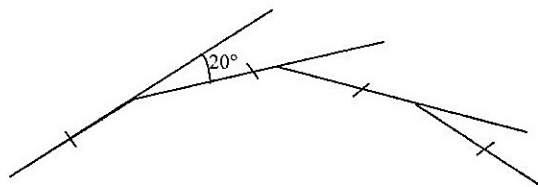
Calculate the length of  $BC$ .

- 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  $20^\circ$ .



Find the number of sides of this regular polygon.