EXAMINATIONS COUNCIL OF ZAMBIA

JUNIOR SECONDARY SCHOOL LEAVING EXAMINATION (GRADE 9) – 2015

Mathematics 401/1

Paper 1

(INTERNAL AND EXTERNAL 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)**.

   For example, if the answer is D

A	B	C	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.

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ANSWER SHEET FOR GRADE 9 MATHEMATICS PAPER 1 – 2015

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

TOTAL MARK for Section B [ ]

SECTION A [10 MARKS]

1 Evaluate $-2 + (-8)$.

A 10

B 6

C -6

D -10

2 Find the value of $2^3 + 4^2$.

A 24

B 14

C 12

D 6

3 Write 58.234 correct to one significant figure.

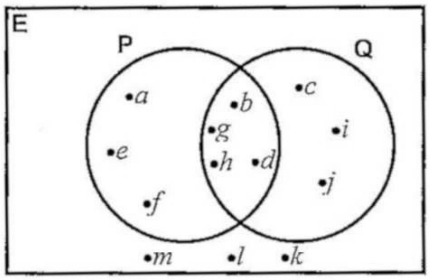
A 5

B 6

C 58

D 60

4 The Venn diagram below shows sets P and Q.



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

A $\{k, l, m\}$

B $\{b, d, g, h\}$

C $\{c, i, j\}$

D $\{a, e, f\}$

5 Which of the following is an input device?

A Printer

B Keyboard

C Monitor

D Speaker

Space for working

6 A girl scored 17, 43, 15, 22 and 18 in Mathematics weekly tests. Find the mean score.

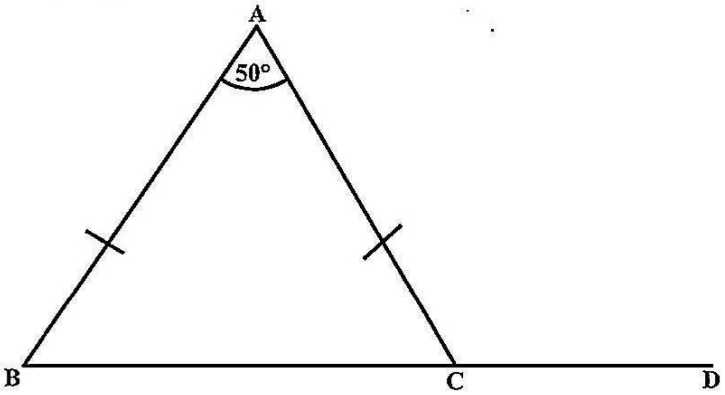
A 23

B 22.8

C 18

D 15

7 In the diagram below, BCD is a straight line, angle BAC = 50° and AB = AC.



Find the angle ACD.

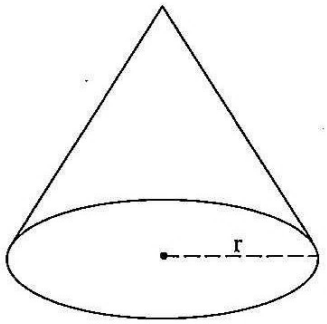
A 130°

B 120°

C 115°

D 65°

8 How many faces does the solid below have?



A 3

B 2

C 1

D uncountable

9 Which of the following is a rational number?

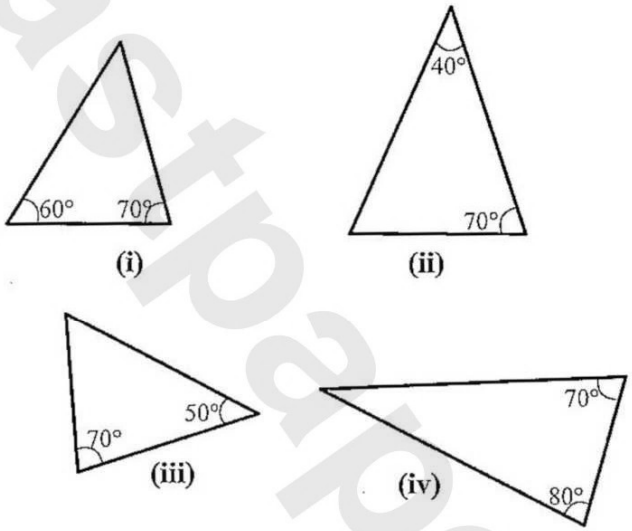
A $\sqrt{2}$

B $\sqrt{3}$

C $\sqrt{4}$

D $\sqrt{5}$

10 Study the diagrams below.



Which of the triangles above are similar?

A (i) and (ii)

B (i) and (iii)

C (ii) and (iii)

D (ii) and (iv)

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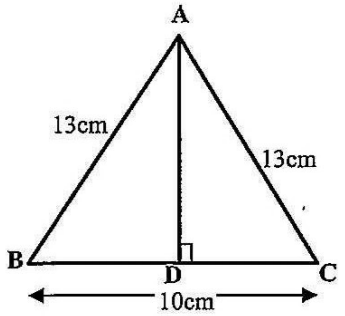
SECTION B [40 MARKS]

11 Factorise completely $5ab^2 - 10ab$.

12 Solve the equation $2x + 13 = 3$.

13 In the diagram below, BDC is a straight line. AD is perpendicular to BC, AB = AC = 13cm and BC = 10cm.



Find the length of AD.

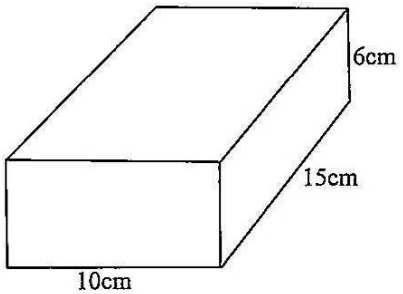
14 Given that $x = -2$ and $y = 1$, find the value of $4x^2 - 3xy$.

15 Given that matrix N = (5 −6 2),

(i) state the order of matrix N,

(ii) find 3N.

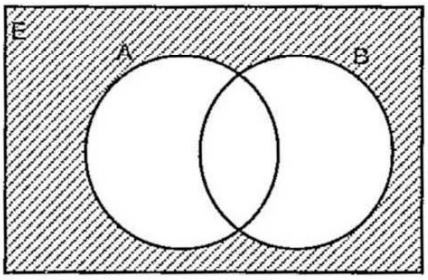
16 In a Woodwork practical, Jenipher cut a wooden block of length 15cm, breadth 10cm and height 6cm as shown below.



Given that the density of the wooden block is $0.05 g/cm^3$, find its mass.

17 Mr Kantwa deposited K6 000.00 in a bank at the rate of 30% simple interest per annum for 9 months. Calculate the interest.

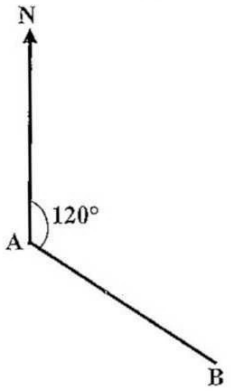
18 The Venn diagram below illustrates sets A and B.



Use set notation to describe the shaded region.

19 Simplify $-3x + 2y + x - y$.

20 In the diagram below, the bearing of B from A is 120°.

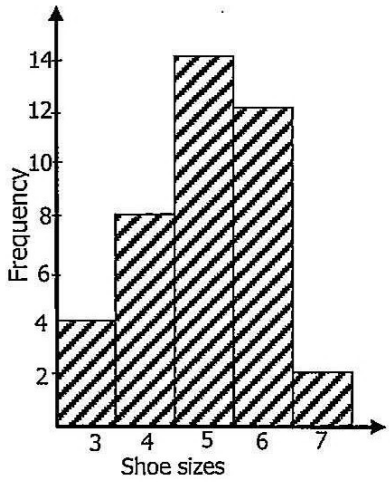


Find the bearing of A from B.

21 Find the size of each exterior angle of a regular hexagon.

Space for working

22 The bar chart below shows the distribution of the pupils' shoe sizes in a grade 9 class.



Find the number of pupils who wear size 5 and above.

23 Convert 11.011_2 to base 10.

24 Fine the value of $\sqrt[3]{8} + \sqrt{16}$.

25 Chidoki had K100.00 to buy the following items:

1kg kapenta at K20.00 per kg,

2 packets of tomatoes at K10.00 per pack,

2 heads of cabbage at K5.00 per head,

3kg of beans at K15.00 per kg.

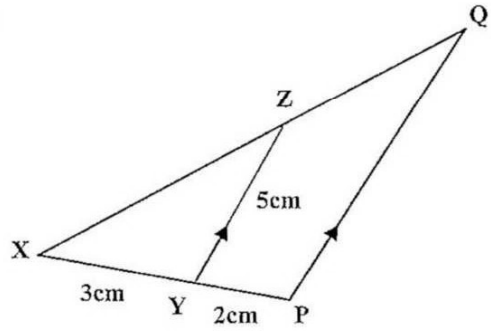
(i) How much did she pay altogether?

(ii) How much was her change?

26 In an election, 80 000 people voted. The votes that candidates A, B and C got were in the ratio 9 : 5 : 2 respectively. How many votes did candidate B receive?

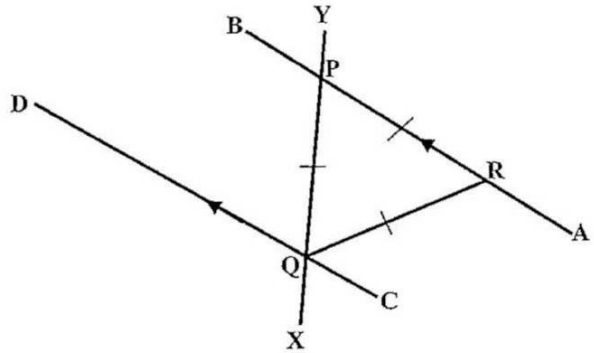
27 (a) Given that $f(x) = 7 - 3x$, find $f(-3)$.

(b) In the diagram below, YZ is parallel to PQ, XY = 3cm, YP = 2cm and YZ = 5cm.



Find the ratio YZ : PQ.

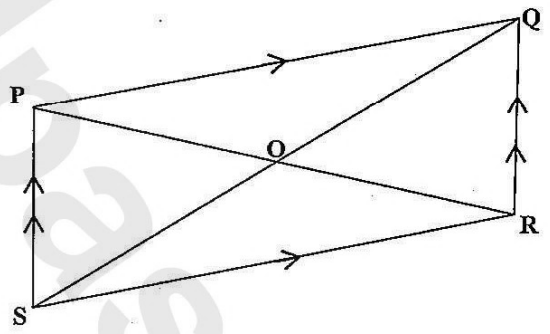
28 In the diagram below, lines AB and CD are parallel. The line XY crosses AB and CD at P and Q respectively. R is on AB such that QR = RP = PQ.



Find angle DQY.

29 Solve the inequation $7 + 2x > 5$.

30 The diagram below shows a parallelogram PQRS with its diagonals crossing at point O.



Name a pair of congruent triangles.

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