

(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.

This paper consists of Sections **A** and **B** only. There are thirty (30) questions in this paper.

Section A: Answer **all** questions. Write the letter of the answer by marking a cross (X) on the Answer Sheet provided.
Question 1 – 10: 1 mark each.

Section B: Answer **all** questions. Write the answers in the spaces provided on the Answer Sheet.
Question 11 – 30: 2 marks each.

- Note:**
- 1 No paper for rough work is to be provided. Any working should be done on the question paper in the spaces provided.
 - 2 **Cell phones and calculators are not allowed in the examination room.**
 - 3 Only the Answer Sheet should be handed in.



**EXAMINATIONS COUNCIL OF ZAMBIA
ANSWER SHEET FOR GRADE 9 MATHEMATICS PAPER 1 – 2012**

NAME: _____

EXAMINATION NUMBER: _____

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	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E

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

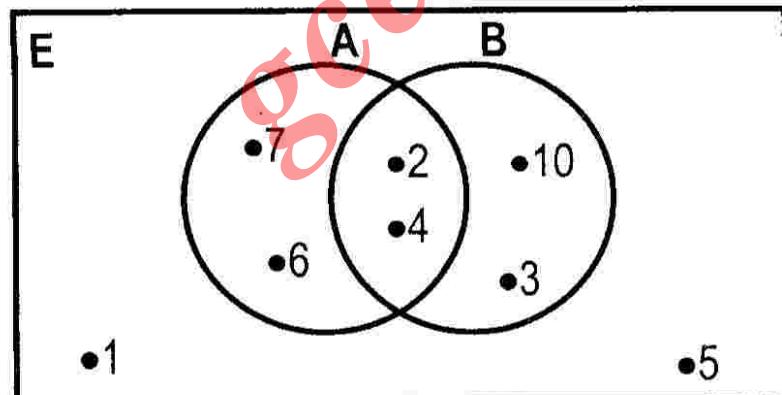
Section B

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

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

SECTION A [10 MARKS]

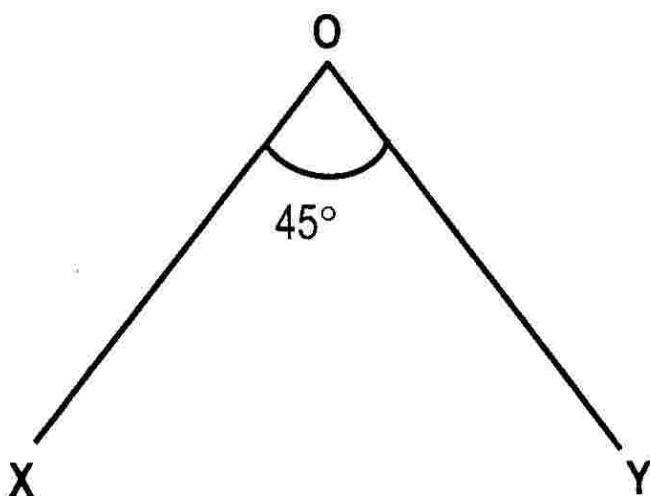
- 1 How many lines of symmetry has a kite?
- A 4
B 3
C 2
D 1
E 0
- 2 Bwalya played 9 games in a chess tournament and scored the following points; 3, 2, 1, 0, 2, 1, 4, 2, 0. What was her modal score?
- A 0
B 1
C 2
D 3
E 4
- 3 How many significant figures has the number 0.4220?
- A 1
B 2
C 3
D 4
E 5
- 4 The Venn diagram below shows the relationship between sets A and B.



List set A.

- A {1, 2, 4, 6, 7}
B {2, 4, 6, 7}
C {1, 6, 7}
D {6, 7}
E {2, 4}

- 5 Given that an acute angle XOY in the diagram below is 45° , what is the size of the reflex angle XOY ?



- A 45°
B 135°
C 215°
D 225°
E 315°

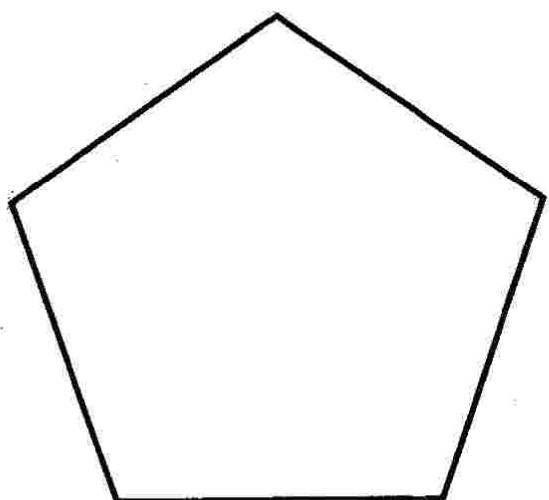
- 6 Find the value of $18 - 3 \times 2 + 4$.

- A 8
B 16
C 20
D 34
E 90

- 7 Express 0.16 as a fraction in its lowest terms.

- A $\frac{4}{25}$
B $\frac{1}{6}$
C $\frac{10}{16}$
D $\frac{16}{25}$
E $\frac{16}{10}$

- 8 What is the order of rotational symmetry of the regular polygon shown below?



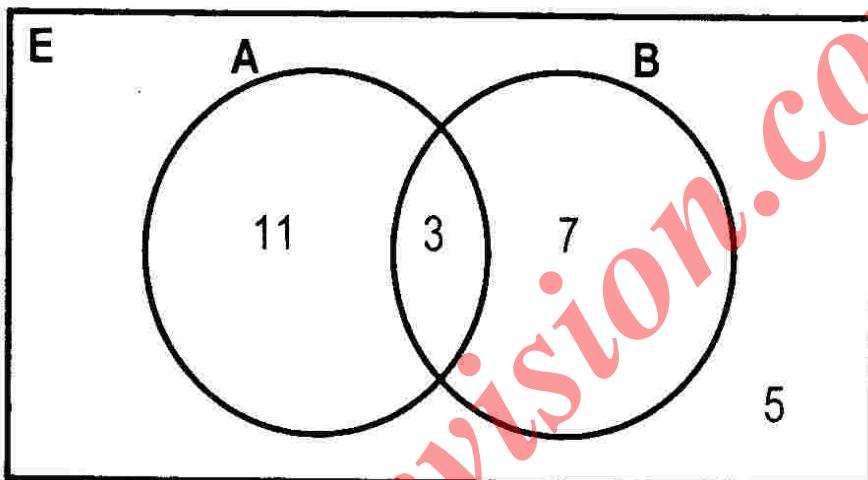
- A 0
 - B 1
 - C 2
 - D 3
 - E 5
- 9 Simplify $8y + 2 - 3y$.
- A $8y - y$
 - B $10y - 3y$
 - C $5y + 2$
 - D $10y - 3$
 - E $11y + 2$
- 10 Write 74 648 to the nearest 1 000.
- A 74 600
 - B 74 650
 - C 75 000
 - D 75 600
 - E 75 650

SECTION B [40 MARKS]

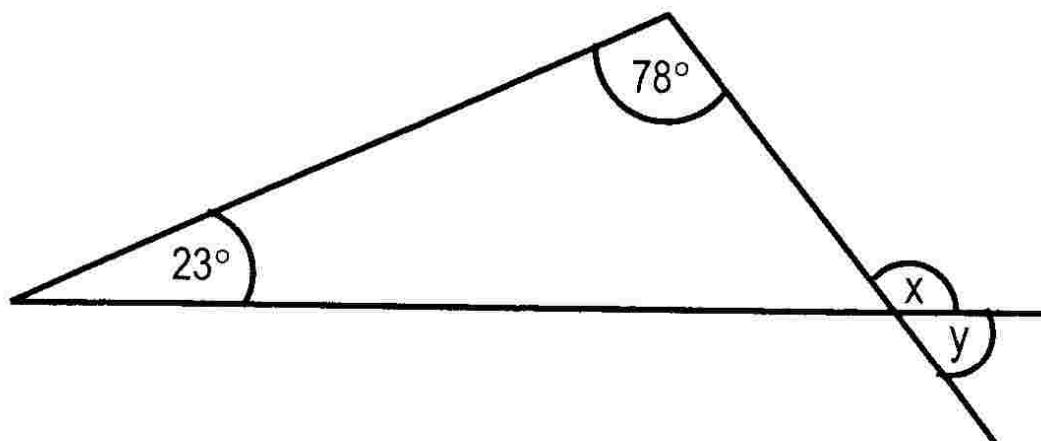
- 11 Given that $a = -2$, $b = -1$ and $c = 1$, find the value of $b^2 - ac$.
- 12 Solve the inequation $6x - 13 \geq 11x - 3$.
- 13 The frequency table below shows the number of goals Nyunya Football Club scored in a particular season. If their median score was 2.5, find the value of x .

Number of goals	0	1	2	3	4	5
Frequency	2	1	2	x	3	1

- 14 The Venn diagram below shows the number of elements in each region. Find $n(A)$.

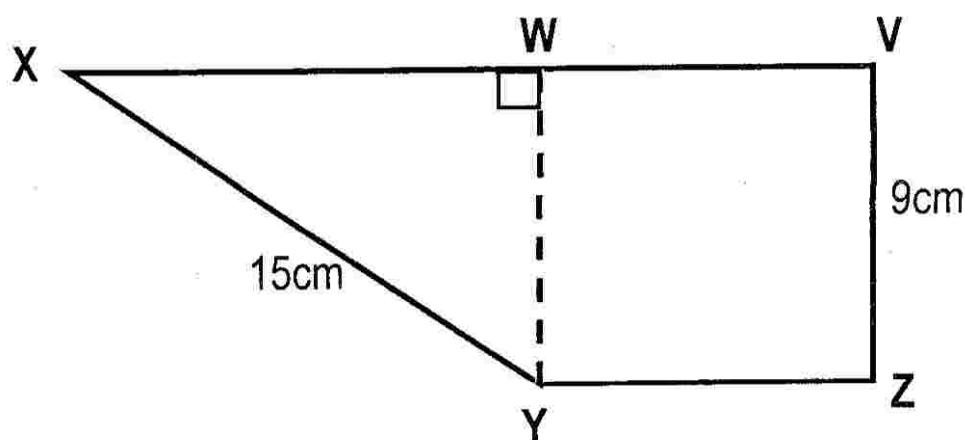


- 15 Find the size of each of the angles marked x and y in the diagram below.



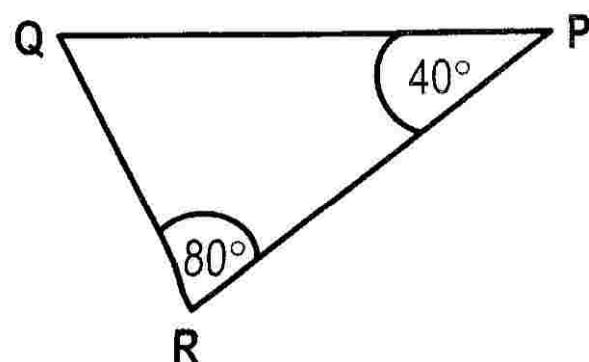
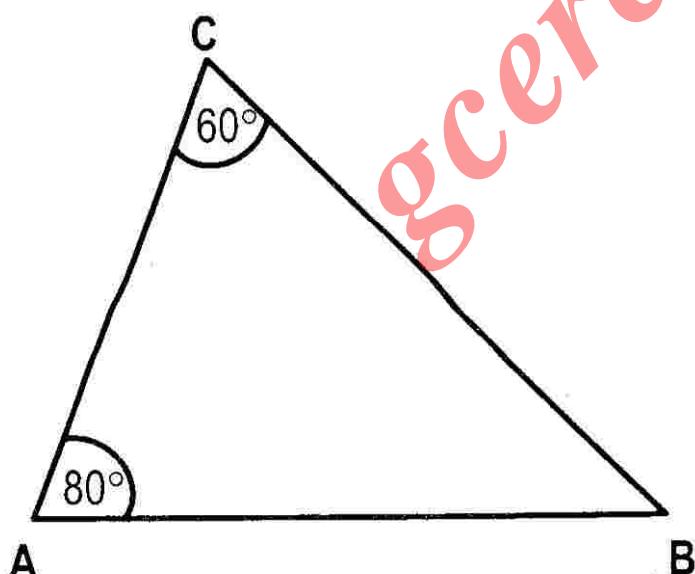
- 16 Express 0.004219 in standard form correct to 3 significant figures.

- 17 In the figure below, VWYZ is a square which is joined to a triangle XWY. XY = 15cm, VZ = 9cm and angle XWY = 90°.



Calculate the length of VX.

- 18 (a) Mrs Zimba bought 600 eggs and she discovered later that 90 eggs were broken. What percentage of the eggs were broken?
 (b) The triangles below are similar.

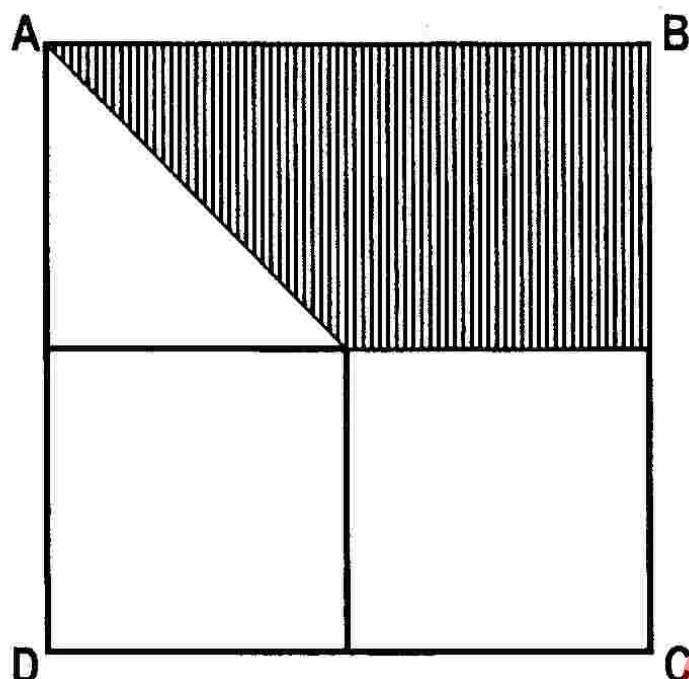


Which side corresponds to BC?

19 (a) Find the next term in the sequence 1, 2, 4, 7, 11, 16, ...

(b) Arrange the following numbers in descending order:
-5, 0, 1, -2, -7.

20 (a) ABCD is a square. What fraction of the square is shaded?



(b) Find the exact value of 0.00002×30 .

21 Mwansa, Mwalukanga and Chodziwadziwa shared 60 mangoes. If Mwansa got 25 mangoes and Chodziwandziwa got $\frac{1}{3}$ of the total number of mangoes, how many mangoes did Mwalukanga get?

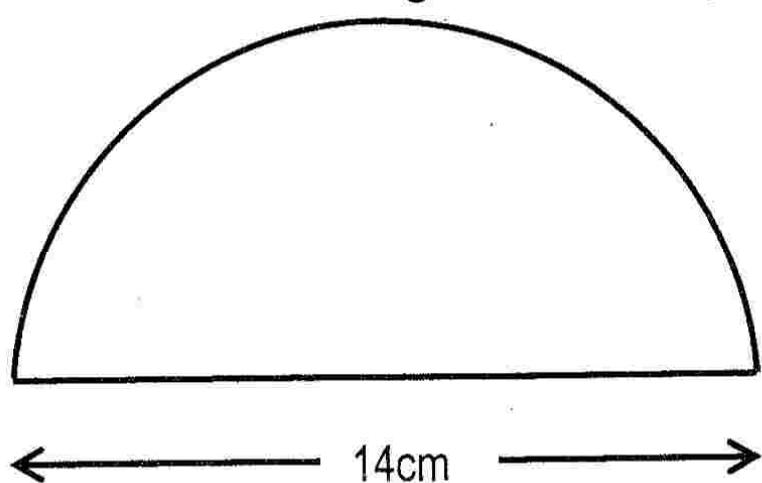
22 Mrs Mwape bought the following items from a shop:

3 tablets of soap at K4 000 each,
3 packets of sugar at K5 500 each,
2.5 litres of cooking oil at K34 000,
2 packets of washing powder at K9 500 each,
2 kilograms of bananas at K4 000 per kilogram.

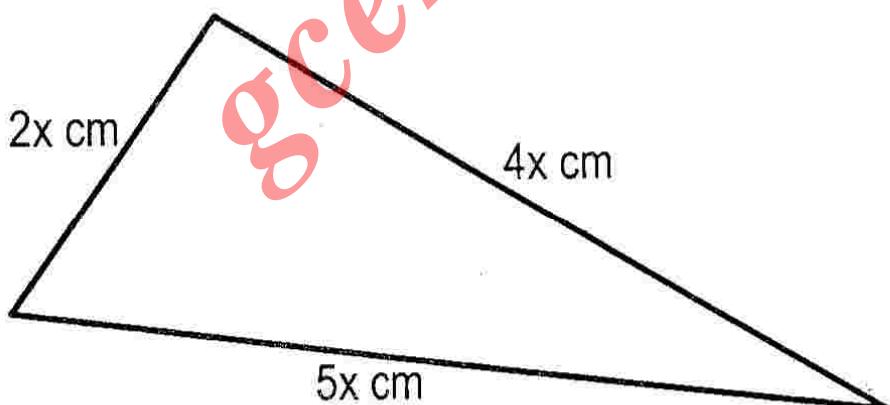
How much change did she get from K100 000?

23 Simplify $4y^5 \times 8y^3$.

- 24 Find the area of the semi-circle given below. (Take $\pi = \frac{22}{7}$).



- 25 Solve the equation $\frac{2}{q} = \frac{3}{q+2}$.
- 26 Find the sum of the first 5 odd numbers.
- 27 A full tank holds $15m^3$ of water. What is this capacity in litres?
($1cm^3 = 1ml$).
- 28 Mr Kalaba borrowed K2 500 000 from a commercial bank and paid K500 000 interest at a rate of 5% per annum. Find the time taken to repay the borrowed money.
- 29 (a) Find the perimeter of the figure below in terms of x.



- (b) Mr Kantemba sells lemons at K700 each. How many lemons did he sell if he had K105 000 at the end of the day?
- 30 A political debate was televised. The programme lasted 5 hours 34 minutes. If the programme ended at 01 30 hours on Monday, what time and day did the programme start?