JUNIOR SECONDARY SCHOOL LEAVING EXAMINATION (GRADE 9) – 2010

MATHEMATICS 401/1
PAPER 1

(INTERNAL & 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 down 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 down 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.

Space for work

EXAMINATIONS COUNCIL OF ZAMBIA

ANSWER SHEET FOR MATHEMATICS PAPER 1 – 2010

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	28
19	29
20	30 (i) (ii)

SECTION A   **[10 MARKS]**

Space for working

1 The next two terms of the sequence 5, 9, 15, 23 are, ···
   A 33, 45.
   B 33, 39.
   C 33, 35.
   D 25, 33.
   E 25, 29.
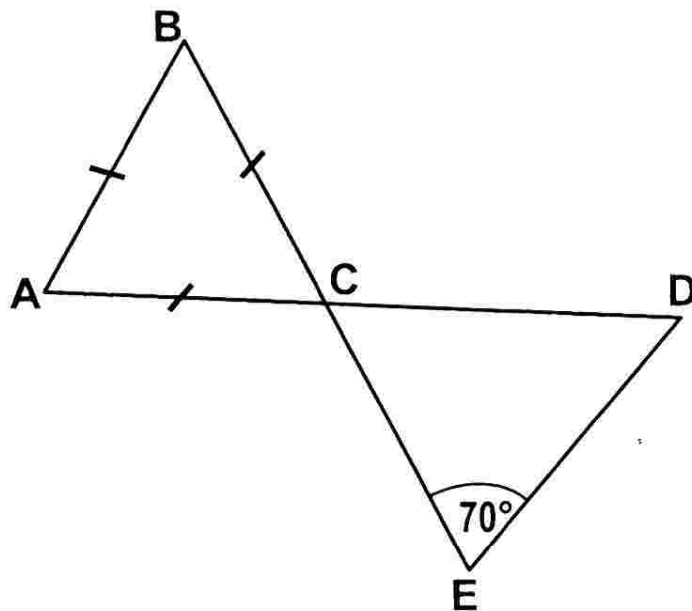
2 Evaluate $\frac{5}{12} \div \frac{2}{3}$.

   A $\frac{2}{9}$

   B $\frac{5}{8}$

   C $\frac{7}{12}$

   D $\frac{5}{18}$

   E $1\frac{3}{5}$

3 Find the value of $t - 3p$, given that $t = -4$ and $p = 2$.
   A 14
   B 2
   C -2
   D -10
   E -36

[Turn over

4 In the figure below AB = BC = AC and angle CED = 70°.
What is the size of angle ADE?

- **A** 50°
- **B** 60°
- **C** 70°
- **D** 120°
- **E** 130°

5 The population of Zambia is about 11 894 200. Round off this number to the nearest thousand.

- **A** 12 000 000
- **B** 11 895 000
- **C** 11 894 000
- **D** 11 893 000
- **E** 11 000 000

6 Evaluate 2.45 + 38.7.

- **A** 6.32
- **B** 41.15
- **C** 63.2
- **D** 411.5
- **E** 632

Space for working

7   How many subsets does the set A = {1, 2, 3, 4} have?

    A 4

    B 8

    C 12

    D 16

    E 32

8   Mr Bwalya has 60 sweets which he wishes to share among his three sons Charles, Dickson and Edwin in the ratio 1:4:7 respectively. How many sweets will Edwin get?

    A 5

    B 12

    C 20

    D 35

    E 40

9   How many lines of symmetry has the figure below?
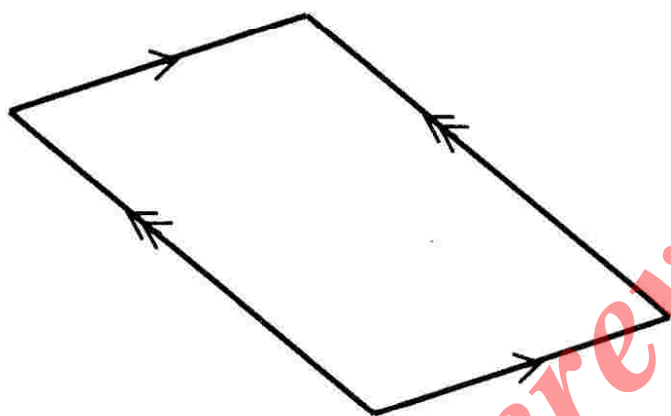
    A 4

    B 3

    C 2

    D 1

    E 0

10   Evaluate $2^3 \times 3^2 + 5^1$.

    A 80

    B 77

    C 42

    D 41

    E 37
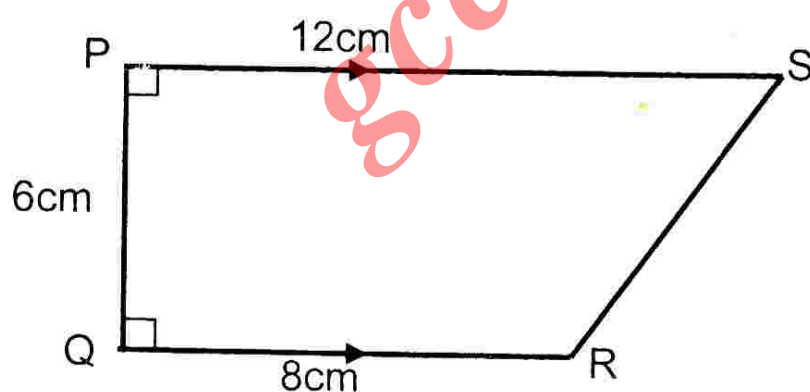
[Turn over

SECTION B   [40 MARKS]

Space for working

11 Find the value of $14_{five} + 123_{five}$ in base 10.

12 In the diagram below, the bearing of P from Q is 080°. Find the bearing of Q from P.
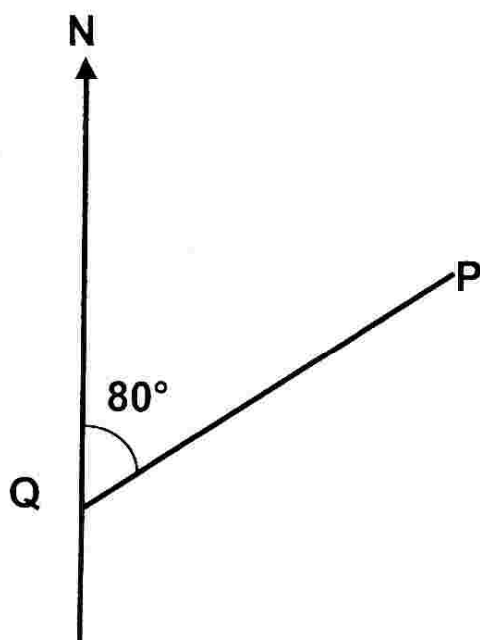
13 Express $\dfrac{3n}{4} - \dfrac{n}{2}$ as a single fraction, in its simplest form.

14 The figure below is a trapezium PQRS, in which angle PQR = angle QPS = 90°, PQ = 6cm, QR = 8cm and PS = 12cm. Calculate the length of the diagonal PR.


15 Solve the equation $7 - 4x = 9 - 12x$.

16 A Boarding Master has 252 bags of mealie meal to feed pupils for 12 weeks. If the term is extended by 1 week, how many more bags of mealie meal would be needed to feed the same number of pupils?

17 A string is cut into two parts in the ratio 7:5. If the longer part is 21m long, find the total length of the string before it was cut.

Space for working

18 The diagram below shows part of a circle with centre O and radius 28mm. Calculate the perimeter of the shape. Take π to be $\frac{22}{7}$.
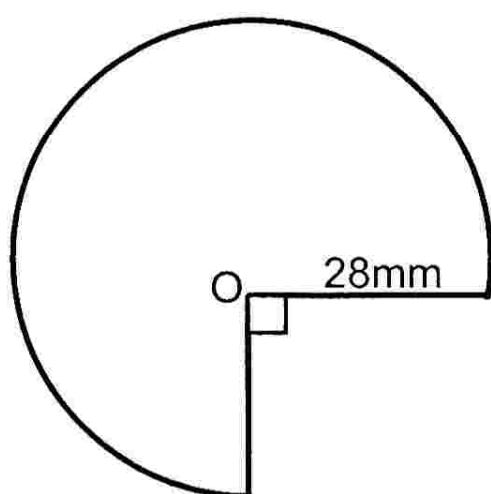

19 Two water cisterns are made in such a way that when they are full they automatically empty themselves. One cistern empties after every 4 minutes and the other after every 5 minutes. If both cisterns are empty at 10 00 hours, when next will they both be empty at the same time?

20 The distance between Lusaka and Livingstone is approximately 480km. A bus left Lusaka at 06 30 hours and arrived in Livingstone at 12 30 hours. What was the average speed of the bus?

21 Choolwe got a loan from a bank at the rate of 30% per annum for 2 years. If the interest to be paid back was K5 400 000, what was the value of the loan?

22 If $p = \frac{mn}{4r}$, make r the subject of the formula.

23 Given that the mean of 3, 7, 5, 11, x, 3, 2, 8, 2 and 5 is 6, what is the value of x?

24 Zyola was given $400 for K2 200 000. How much kwacha did she pay for each dollar?

25 Kyolwe was (x + 1) years in 2009. If he was 10 years old in 2005, find the value of x.

26 Solve the inequality 4x + 5 < 6x + 2.

27 Mrs Malaiti paid K583 000 to an electricity company to buy electricity units. The charge included K3 000 TV licence fee. If she bought 580 units, what was the cost of 1 unit?
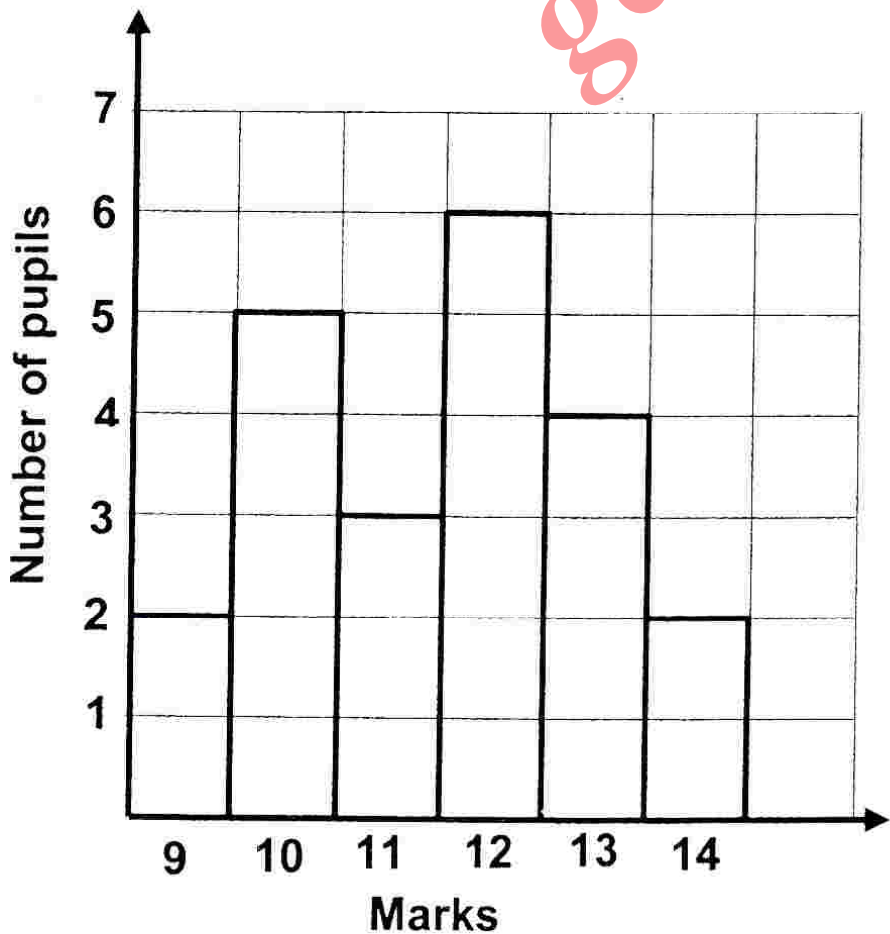
[Turn over

28 In the figure below, AB is parallel to CD. N is the mid-point of CD. If AN = BN and angle ANC = 54°, calculate the size of the angle marked y.
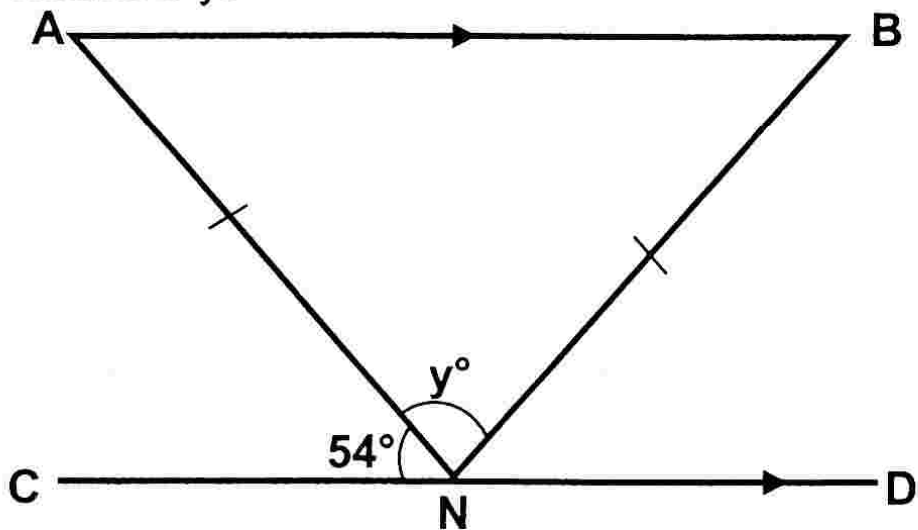
29 In the diagram below, AC is parallel to XY. XB = 4cm, AX = a cm, XY = 6cm and AC = 9cm. Find the value of a.
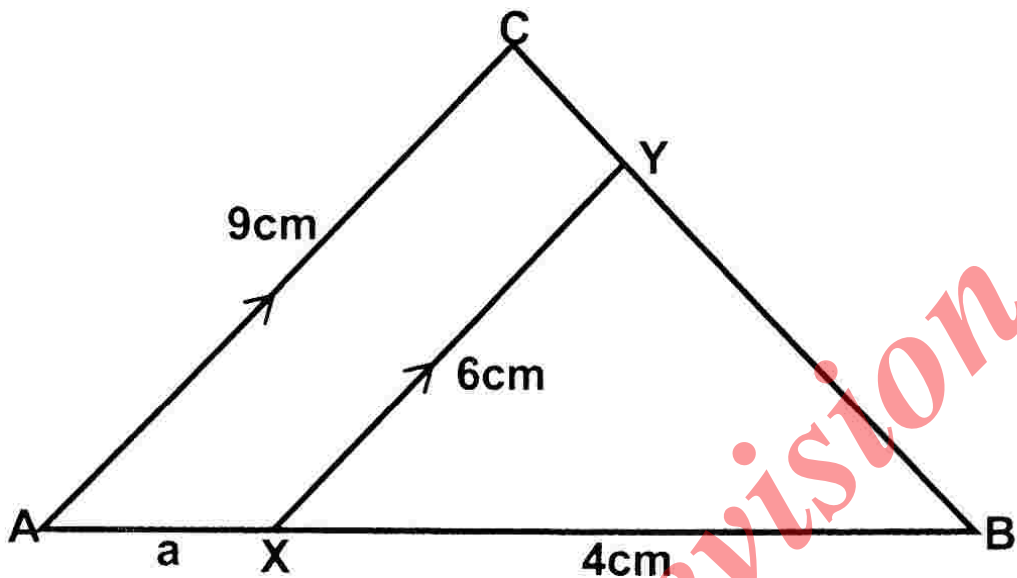
30 The bar chart below shows the results in a Mathematics test for a Grade 9 class at Lwiyo Basic School.

(i) How many pupils wrote the test?

(ii) If the pass mark was 12, how many pupils failed?