UNIQUE STAR EXAMINATIONS BOARD

PRE PRIMARY LEAVING EXAMINATION SET TWO

2024

MATHEMATICS

Time allowed : 2 hours 30 minutes

Index No.	Random No.						Personal No.		

Candidate's name : ....

Candidate's signature : ....

School Random number : ....

District No. :

Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.
2. This paper has two sections: A and B.
   Section A has **20** questions and section **B** has **12** questions. The paper has **15 printed papers** altogether.
3. Answer **all** questions. All the working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** working must be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than graphs and diagrams will **NOT** be marked.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and handwriting that cannot easily be read may lead to loss of marks.
7. Do not fill anything in the table indicated: **"For examiners' use only"** and the boxes inside the question paper.

1. Work out: 23×3

2. Write 301,014 in words.

   ....

   ....
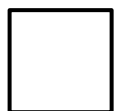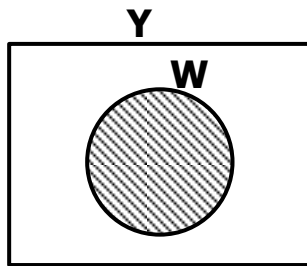
3. Work out: $3 - 4$ (finite 7)

4. Solve the equation: $8m - 2 = 14$

5. Simplify: $2^{11} \div 16$

6. Describe the shaded region in the Venn diagram below.

7. Express 0.0406 in standard form.

8. Kifule made a profit of sh 2100 on a dress and this was 35% of the cost price of the dress. Calculate the amount of money Kifule sold the dress.

9. Write 00 45 hours in the 12 hour clock.

10. Simplify: $\frac{2}{3} \times 2\frac{1}{4}$

3
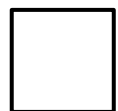
11. Express 464 as Roman numerals.

12. On a map, **town X** is 4.5 cm away from **town Y** on a bearing of 120º. Using a ruler, a protractor and a pencil only, locate the two towns.

13. A girl scored the following points in a computer game:

    111,   108,   118,   111,   115,   119

    Find her median score.

14. Given that $a = 6$, $b = 4$ and $c = 3$. Find the value of $c + b + 2(b - a)$.

15. Study the figure below carefully and use it to answer the question that follows.
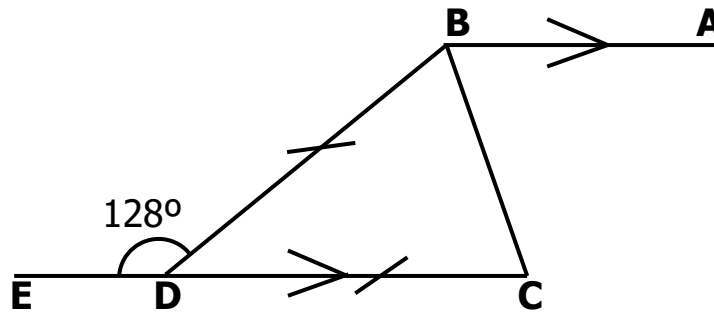
Find in degrees, the size of angle **ABC**.
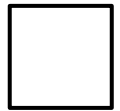
16. A girl ran 5 times around a circular track of diameter 42 metres.
    Find in metres, the distance the girl covered.   (Use π as $\frac{22}{7}$)

17. Ten cylindrical tins of volume 45cm^3 each were packed in a rectangular box leaving un occupied space of 125cm^3. Find the volume of the rectangular box.
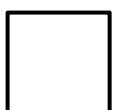
Turn over

18. Julie went to a shop with enough money to buy 22 pens at sh 500 each.
    She found out that the price of each pen was increased by sh 50.
    How many pens did she buy?

19. Find the lowest common multiple *(LCM)* of **18** and **30**.

20. The pie chart below represents the 72 animals on a certain farm. There
    are 6 more cows than sheep on that farm.
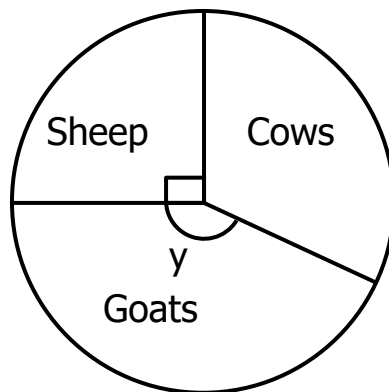
    Find the value of y in degrees.

SECTION B: 60 MARKS

Answer **all** questions in this section

Marks for each question are indicated in brackets

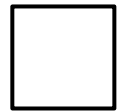21. (a) Work out: $143_{five} + 4_{five}$ *(02 marks)*

    (b) Change to base two, the number expanded below:

    $(1 \times 4^2) + (3 \times 4^0)$ *(02 marks)*

22. (a) Express 6.666… as a rational number. *(02 marks)*

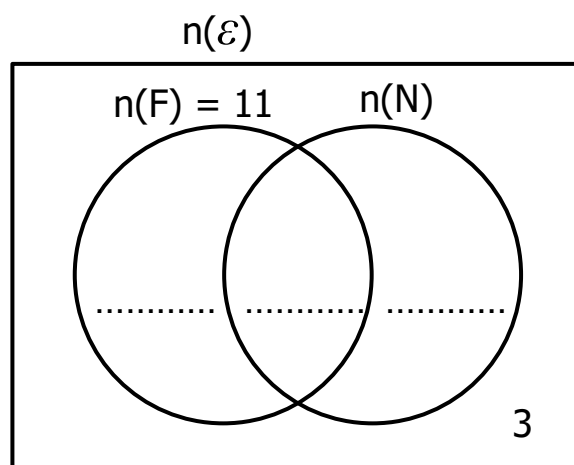(b)   Simplify: $0.18 \div \dfrac{3}{4}$ of 0.4 *(03 marks)*

23.   In a sports club, 11 members play football (**F**), 7 play football but not netball (**N**), 3 play neither of the two games while **y** do not play football.

(a)   Use the given information to complete the Venn diagram below.
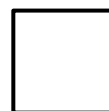
(03 marks)

n(ε)

n(F) = 11   n(N)

3

(b)   Given that 9 members play netball altogether, find the value of **y**.

(02 marks)

24. The interior angle of a regular polygon is 135º.

(a) Name the polygon. (03 marks)

(b) Find the sum of all interior angles of the polygon. (02 marks)

25. A business woman went to a bank and withdrew sh 244,000 in different denomination as shown in the table below.

Number of notes	Value of each note	Amount
7	Sh 20,000	....
8	....	Sh 40,000
....	Sh 2,000	....

(a) Complete the table above. (04 marks)

(b) If 2,000 shilling notes were numbered consecutively to AX2640030. Find the identification number for the first note.
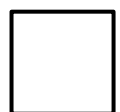
(02 marks)

26. In a village, a third of the farmers grow maize, 25% grow cassava, 40% of the remaining farmers grow beans and the rest of the farmers grow millet.

(a) Find the fraction of farmers who grow beans. *(03 marks)*

(b) Given that 150 farmers grow millet. Find the number of farmers who grow maize.

(03 marks)

27. (a) Using a ruler, a pencil and a pair of compasses only, construct a quadrilateral **WPQR** whose diagonals **WQ** and **RP** intersect at point **O**, angle **WOP** = 120º and diagonal **WQ** = **RP** = 8cm.
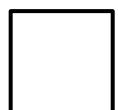
(04 marks)

(b) Measure line **PQ**. *(01 mark)*

28. A motorcyclist covered 54 kilometres from 12:30 p.m. to 2:00 p.m. Calculate the speed of the motorcyclist in metres per second.
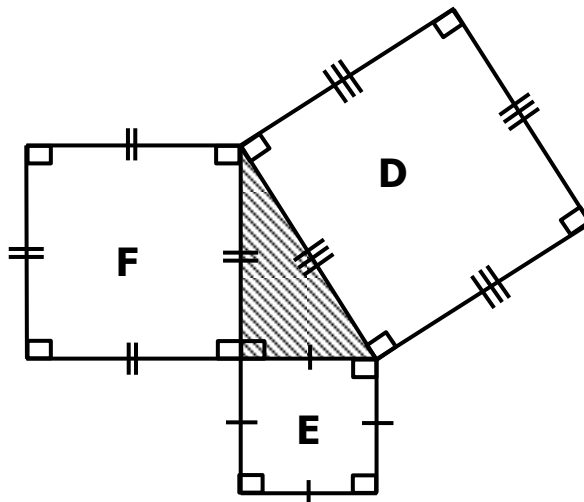
(04 marks)

Turn over

29. The area of each of the squares **D** and **E** is given below:

Square D = 100cm^2
Square E = 36cm^2

Study the figure carefully and use it to answer questions that follow.

Find in square centimetres the area of:

(i)   square F.   (01 mark)
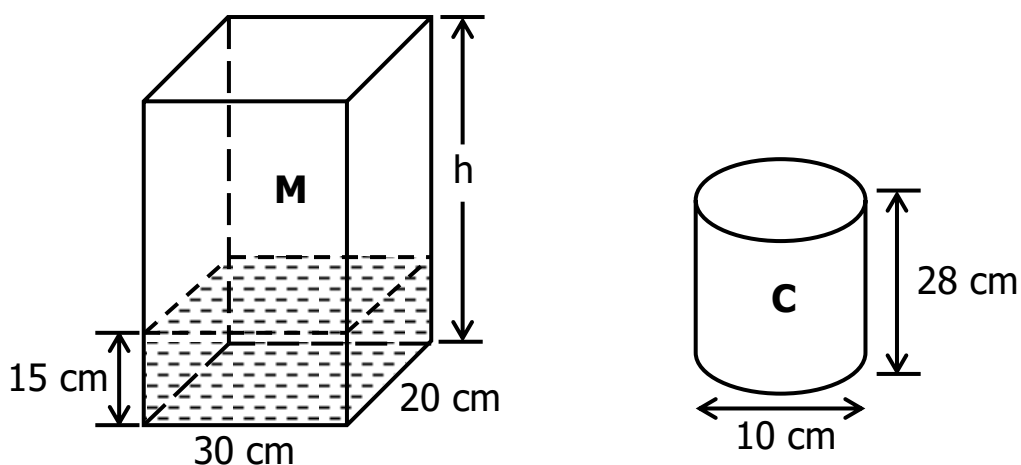
(ii)   the shaded part.   (04 marks)

30. Birasa is 40 years older than Cate. In 6 years' time, Cate will be a sixth of Birasa's age.

    How old is Birasa now?   *(04 marks)*

31. In the figure below, **M** is a water tank and **C** is a cylindrical container. Tank **M** needs 15 full containers of size **C** to become full.
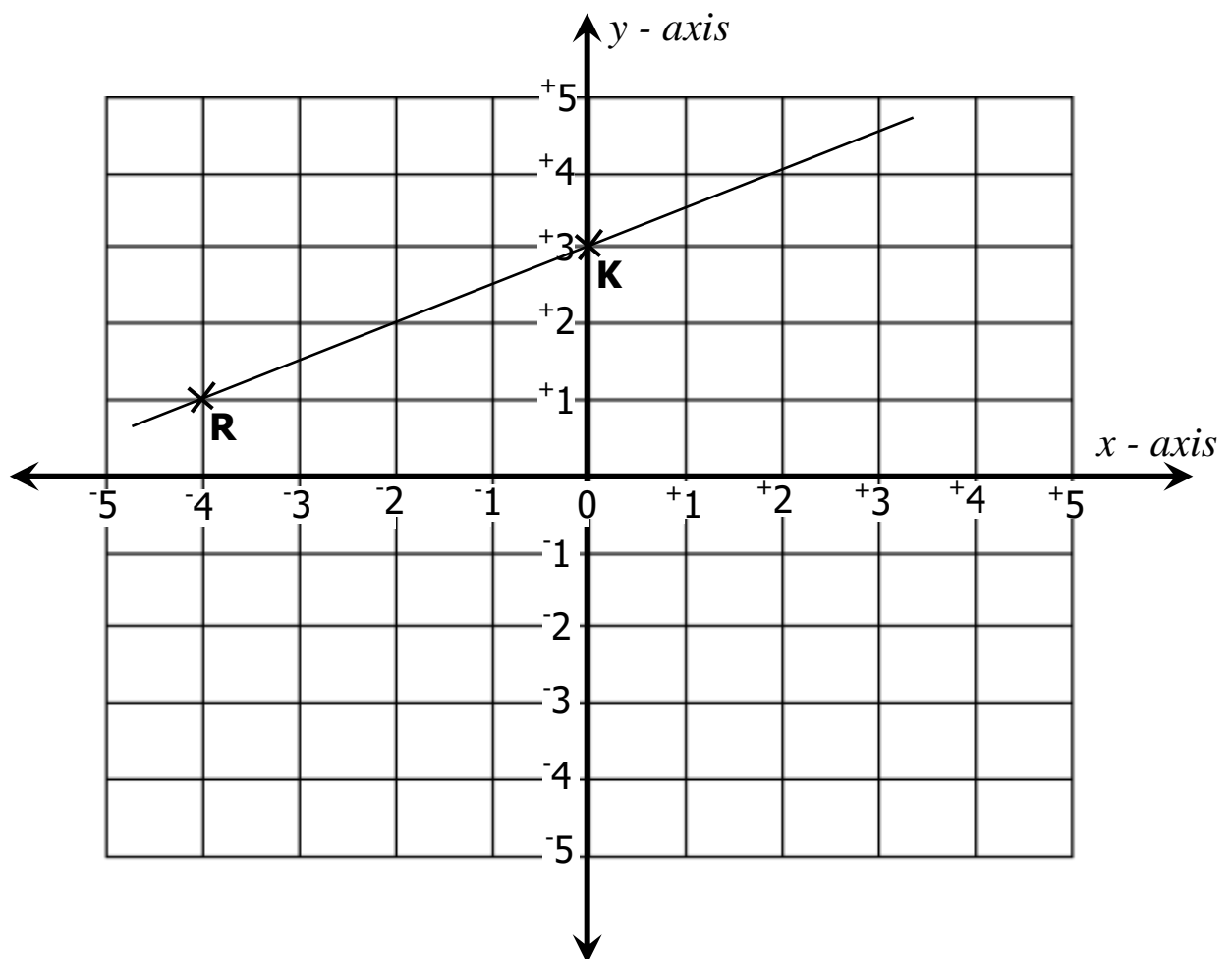

    (a)   Calculate the volume of container **C**. (Take $\pi = \frac{22}{7}$)   *(02 marks)*

Turn over

(b)   Find the value of **h**.   (04 marks)

32.   Use the co-ordinate graph below to answer questions that follow.

(a)   Write the co-ordinates of point **R** and **K**.   *(01 mark each)*

(i)   **R**

(ii) **K**

(b)   Plot points **A($^+$1, $^-$4)** and **B($^-$3, $^+$4)** on the graph.   *(02 marks)*

(c)   Join point **A** to **B** such that line **AB** intersects **RK** at **P**.   *(01 mark)*

(d)   Write the co-ordinates of point **P**.   *(01 mark)*

$$\square$$

END