



SURREKEY EXAMINATIONS BOARD
PRIMARY LEAVING SPECIAL MOCK EXAMINATION
2023
MATHEMATICS

Time Allowed: 2 hours 30 minutes

| | | |
|------------------|---|--|
| Index No. | EMIS No. | Personal No. |
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Candidate's Name:

Candidate's Signature:

School Name:

District Name:

SPECIAL
MOCK **Read the following instructions carefully:**

1. Do not forget to write your **school** and **district name** 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 pages** 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 boxes inside the question paper.

| FOR EXAMINERS' USE ONLY | | |
|-------------------------|-------|-----------|
| Qn.No. | MARKS | EXR'S NO. |
| 1 - 5 | | |
| 6 - 10 | | |
| 11 - 15 | | |
| 16 - 20 | | |
| 21 - 22 | | |
| 23 - 24 | | |
| 25 - 26 | | |
| 27 - 28 | | |
| 29 - 30 | | |
| 31 - 32 | | |
| TOTAL | | |

SECTION A: 40 MARKS

Answer **all** questions in this Section

Questions **1** to **20** carry two marks each

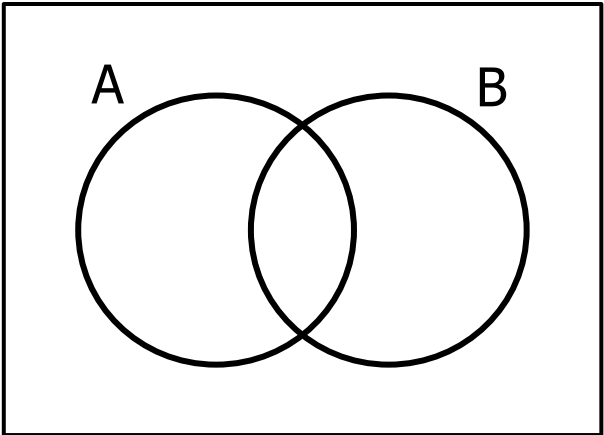
1. Workout:
$$\begin{array}{r} 2\ 3 \\ \times 3 \\ \hline \end{array}$$

2. Find the additive inverse of -2 .

3. Write CDXLII in Hindu Arabic numeral.

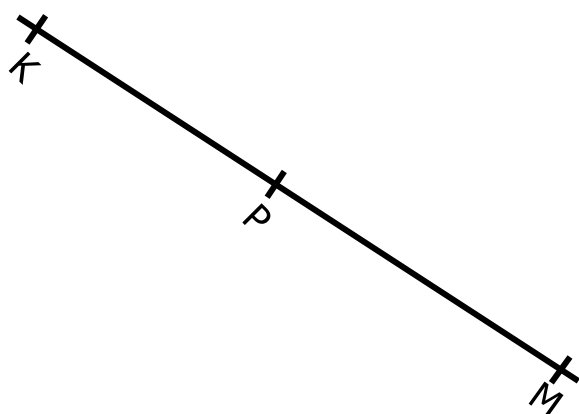
4. Work out: $\frac{2}{3} + \frac{1}{4}$

5. In the diagram below, shade $(A - B)'$



6. Subtract $2p - 4$ from $3p - 7$.

7. Draw an angle of 75° at point P using, a ruler, a pencil and a protractor.



8. The car covered 0.4km and it got a mechanical problem. The remaining distance to complete the journey was 48km. How long was the journey?

9. Round off 29.95 to the nearest tenths.

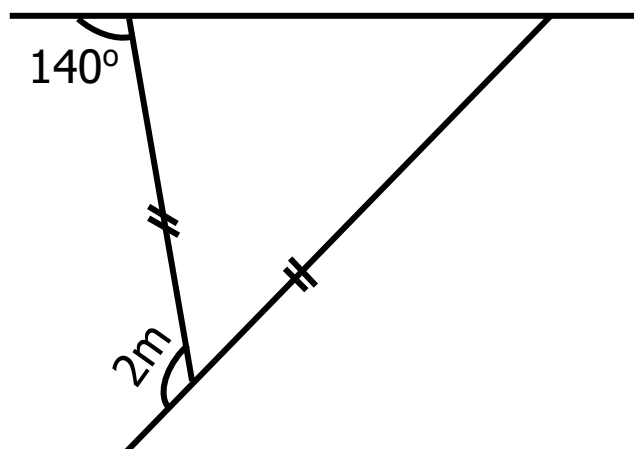
10. Find the sum of the next two numbers in the sequence;

216 , 125 , 64 , _____ , _____



11. The perimeter of the rectangle is 12m. If its width is half the length. Calculate the area of the rectangle.

12. Calculate the value of m in the figure below.



13. Given that $PF_{18} = 2 \times 3^2$
 $PF_{24} = 2^3 \times 3^1$

By using the above factors, find the G.C.F of PF18 and PF24.

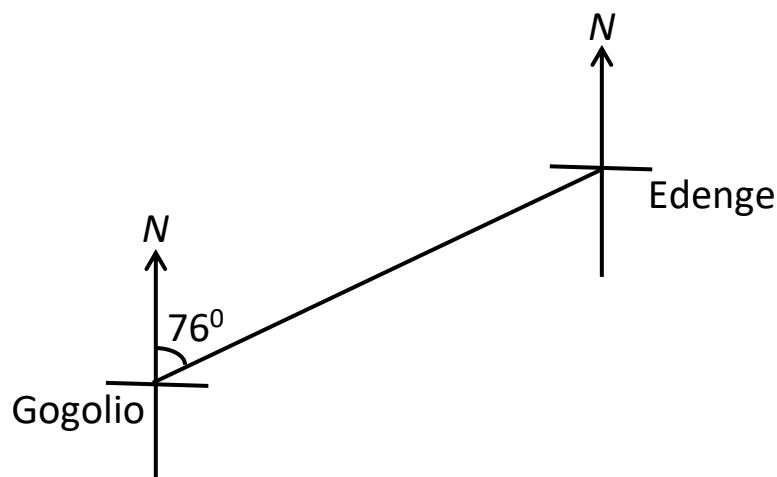
14. Work out:
$$\begin{array}{r} 1\ 1\ 0\ 1_{\text{two}} \\ +\ 1\ 1_{\text{two}} \\ \hline \end{array}$$

15. $\frac{2}{5}$ of a number is 18. What is $\frac{1}{3}$ of the same number?



16. It is 3:00p.m. now. What time will it be after 20 hours from now?

17. The diagram below shows the position of two schools Edenge and Gogolio. Use it to answer the question that follows.



Work out the bearing of Gogolio from Edenge.

18. Work out $12 \div 3$ using a number line.

19. If $p = -8$, $k = -5$, find the value of $\frac{4p - 5k}{p}$

20. Patience sold 24 litres of milk using a cup of 500ml. How many such cups did she sell?



SECTION B: 60 MARKS

Answer **all** questions in this section

Marks for each question are indicated in brackets.

21. Given that; $n(P - B) = x + 2$.

$$n(B - P) = 12 + 2x.$$

$$n(B \cap P) = 5 \quad \text{and} \quad n(B \cup P)' = 3.$$

(a) Find the value of x if 62 pupils represent $n(P - B)$ and $n(B - P)$.

(02 Marks)

(b) Work out: $n(\mathcal{E})$.

(03 Marks)

22. If the sum of 3 consecutive even numbers is 12, calculate the range of the numbers if their middle number is m .

(04 Marks)



23. (a) Solve and state the solution set for n if; $-2n + 4 \leq 16$. (02 Marks)

(b) Solve for k : $43_{\text{ten}} = 37_k$. (02 Marks)

24. James travelled from Town A to Town B at a speed of 50km/hr for 2 hours. He then continued to Town C at a speed of 120km/hr for 30 minutes and rested for 30 minutes at Town C.

(a) How far is Town C from Town A? (02 Marks)

- (b) If he returned to Town A at a speed of 80km/hr, calculate his average speed for the whole journey. (03 Marks)



25. The interior and exterior angles of a regular polygon are in the ratio of 3:2 respectively.

- (a) Name the polygon. (03 Marks)

- (b) Calculate its interior angle sum. (02 Marks)

26. By using a ruler, a pencil and a pair of compasses only;

- (a) Construct a triangle PNY where $\angle PNY = 75^\circ$, $\overline{NY} = 6.5\text{cm}$ and $\angle NYP = 60^\circ$.

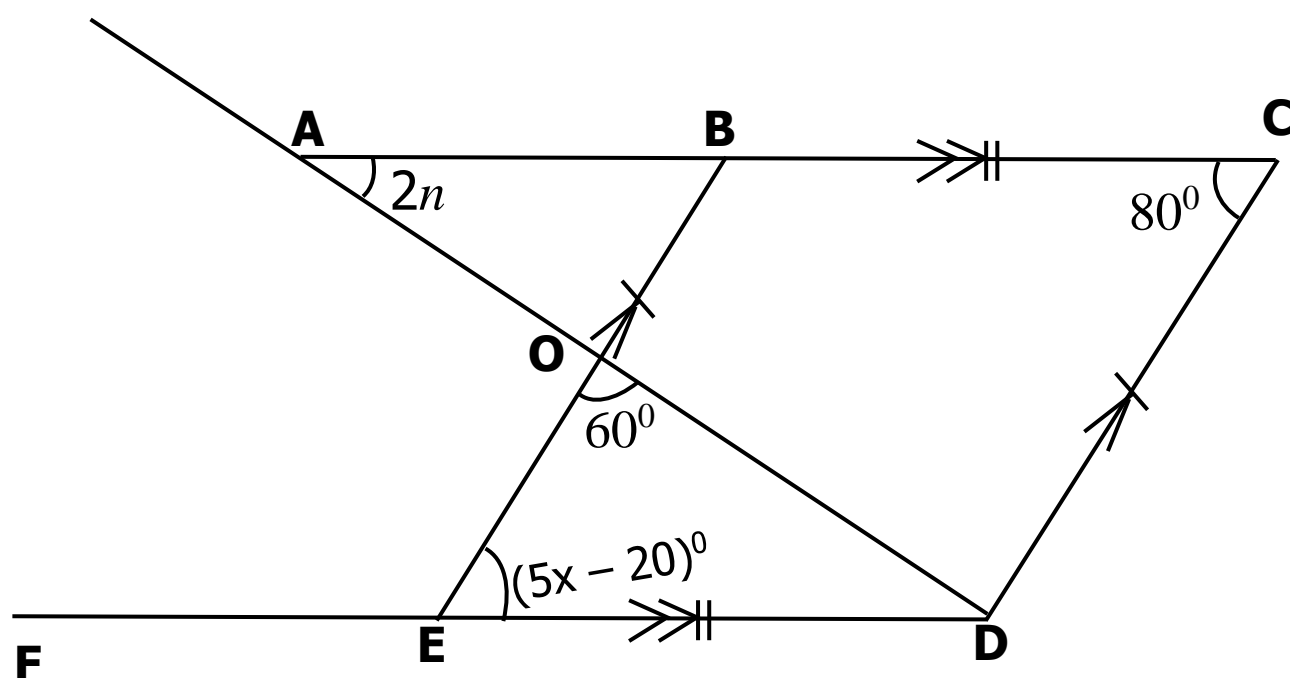
(04 Marks)

- (b) Find the perimeter of the triangle PNY above.

(02 Marks)



27. In the diagram below, line **ABC** is parallel to **FED**, **BE** is also parallel to **CD** and line **AD** intercepts line **EB** at point **O**.



- (a) Find the value of **x**. (02 Marks)

- (b) Calculate the size of angle **BAO**. (02 Marks)

28. Frank spent $\frac{1}{3}$ of his salary on food, $\frac{1}{4}$ less than the remainder on rent and saved sh.120,000 for his son's school fees. How much does Frank earn as monthly salary? (05 Marks)



29. Tom is 15 years older than Sarah, in 6 years' time, Tom will be twice as old as Sarah.
- (a) How old is Sarah now? (03 Marks)

(b) What will be Tom's age by then?

(02 Marks)

30. (a) Work out the difference between the two numbers whose standard form is written below.

$$1.73 \times 10^3 \text{ and } 0.73 \times 10^{-2}$$

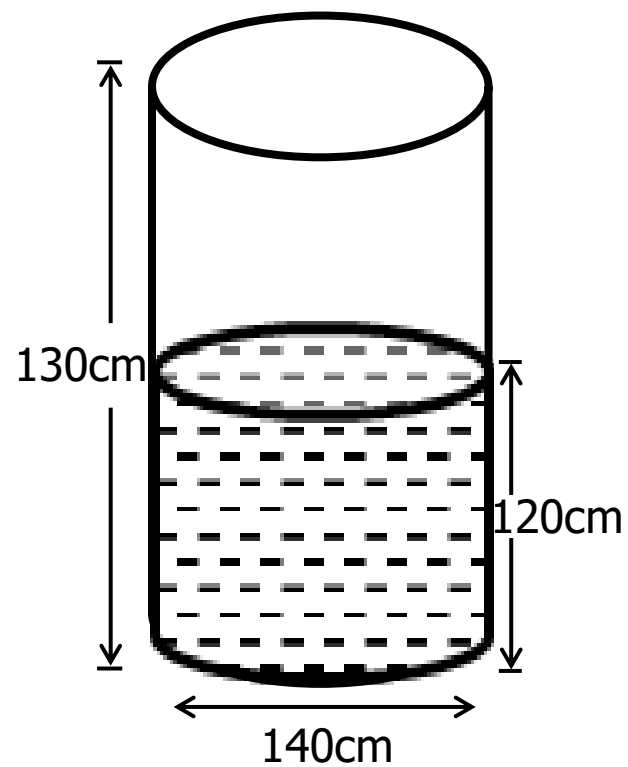
(03 Marks)

(b) Divide 1 by 8.

(02 Marks)



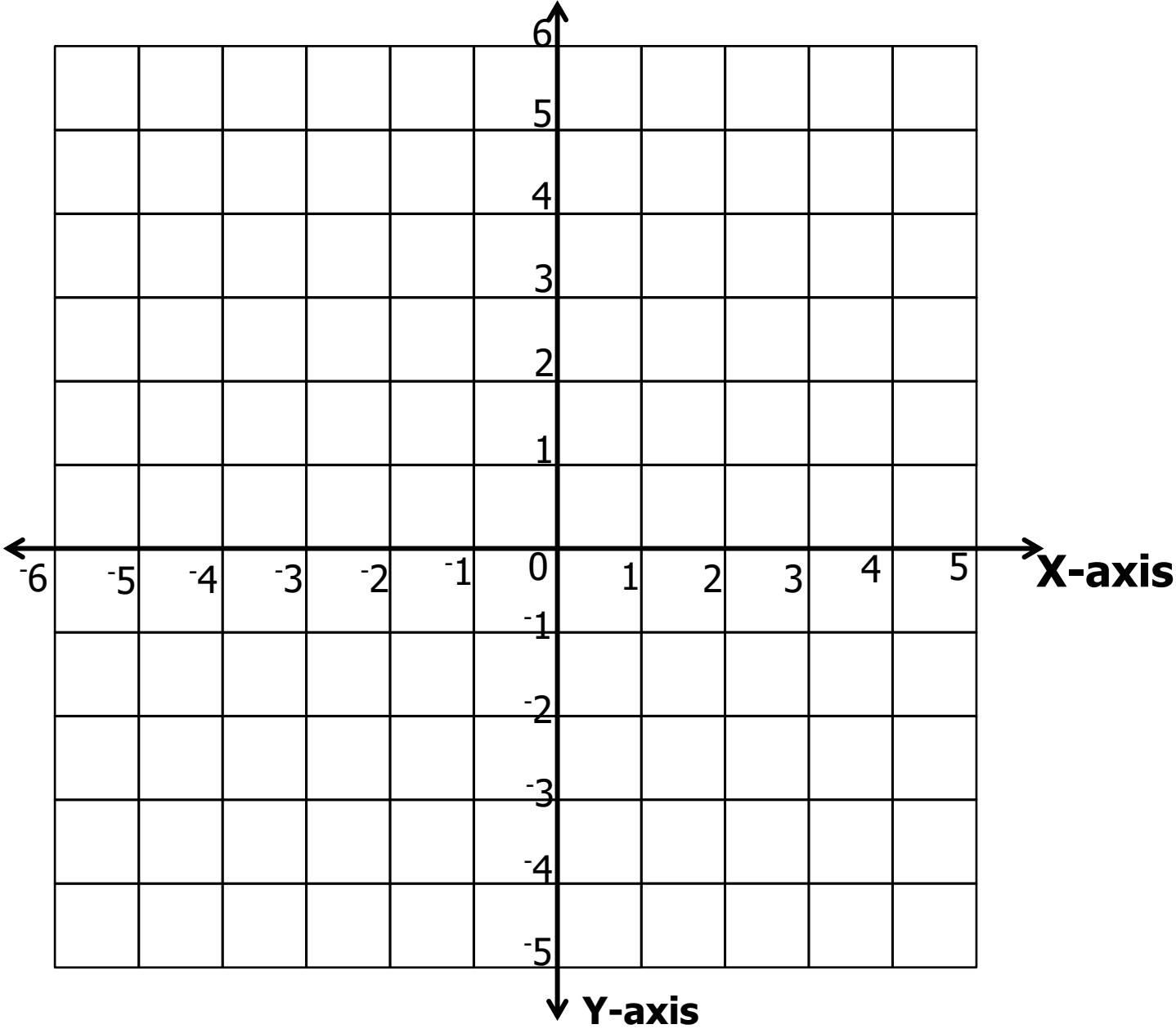
31. The milk can below holds milk to a height of 120cm as shown below.



- (a) How many litres of milk are in the can? (Use π as $\frac{22}{7}$) (03 Marks)
- (b) If John buys each litre of milk at sh.2000, how much money is needed for him to make the can completely full? (03 Marks)

32. Given the points **A** (-2, 5), **B** (2,5), **C** (5,2) and **D** (-5,2).

(a) Plot the points on the graph below. (02 Marks)



(b) Join **A** to **B**, **B** to **C**, **C** to **D** and then **D** to **A**. (01 Mark)

(c) What special name is given to the figure formed? (01 Mark)

.....

(d) Find the area of the figure formed. (02 Marks)



GET READY

TIME UP