SUREKEY EXAMINATIONS BOARD

PRIMARY SIX QUALITY CHECK SET ONE

2023

MATEMATICS

PREPARED BY:

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"Don't speak for Quality, Let the Quality Speak for itself"

SECTION A: 40 MARKS

Answer **all** questions in this Section

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

1. Workout: $305 \div 5$

$$5\overline{)305} = 61$$

$305 \div 5 = 61$

2. Write 13,013 in words.

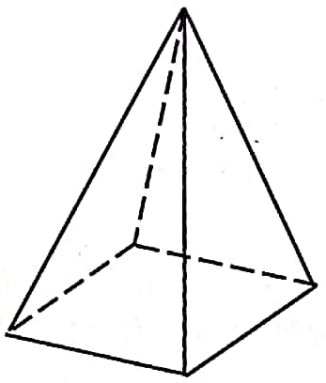
Thirteen thousand thirteen

3. Find the value of 8 in the number 2896.

Th	H	T	O
2	8	9	6

$8 \times 100 = 800$

4. The figure below is a pyramid. Use it to answer the questions about it.



(i) How many faces does it have?

It has 5 faces

(ii) Find its number of edges.

8 edges

5. Find the next number in the sequence.

0, 4, 10, 18, 28, 40

+4 +6 +8 +10 +12

$$\begin{array}{r} {\scriptstyle 1}\,2\,8 \\ +\,1\,2 \\ \hline 4\,0 \end{array}$$

6. Convert 134_{five} to base ten.

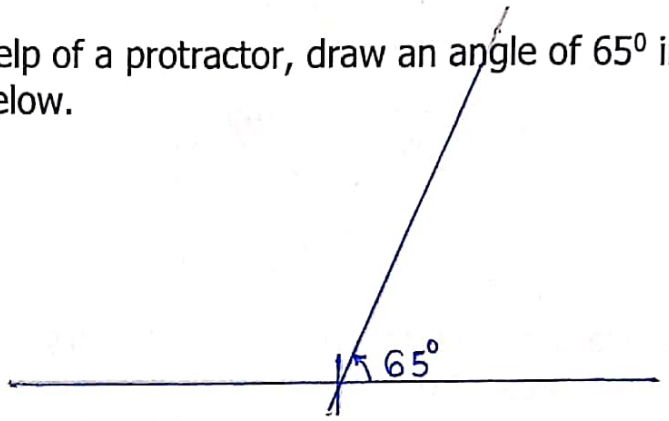
5^2	5^1	5^0
1	3	4

$(1 \times 5^2) + (3 \times 5^1) + (4 \times 5^0)$
$1 \times 5 \times 5 + 3 \times 5 + 4 \times 1$
$25 + 15 + 4$
$40 + 4$
44_{ten}

7. Simplify: $3a - a + a + 2b$.

$(3a - a) + a + 2b$
$2a + a + 2b$
$3a + 2b$

8. With the help of a protractor, draw an angle of 65^0 in the space provided below.



9. Four books cost sh.2000. Find the cost of 8 similar books.

4 books cost sh. 2000
1 book costs sh. $\frac{2000}{4}$
Sh. 500
8 books will cost sh. 500 x 8
= Sh 4000

10. Workout the Lowest Common Multiple (LCM) of 24 and 36.

2	24	36
2	12	18
2	6	9
3	3	9
3	1	3
	1	1

LCM = $(2 \times 2) \times (2 \times 3) \times 3$
LCM = $(4 \times 6) \times 3$
LCM = 24×3
LCM = 72

11. Workout: (6 x 2) + (8 x 2).

$(6 \times 2) + (8 \times 2)$
$2(6 + 8)$
$2(14)$
2×14
28

OR
$(6 \times 2) + (8 \times 2)$
$12 + 16$
$= 28$

Turn Over

12. Amadi's cow gives him 12 litres of milk everyday. How many litres of milk will be milked from the cow in a fortnight?

A fortnight = 14 days.

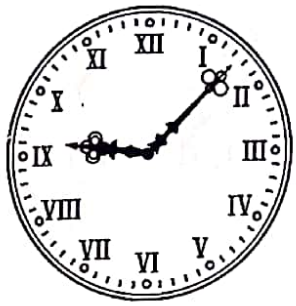
1 day ⇒ 12 litres

14 days ⇒ (12 × 14) litres

= 168 litres

$$\begin{array}{r} 12 \\ \times\ 14 \\ \hline 48 \\ +\ 120 \\ \hline 168 \end{array}$$

13. What is the morning time shown on the clock face below?



9:07 a.m.

14. Mr. Imran whose class has a total number of 30 pupils, counted the number of pupils present on a certain day and tallied as below.

5 + 5 + 3

𝍸 𝍸 |||

How many pupils were absent on that day from his class?

Present = 5 + 5 + 3

= 13 pupils

Total pupils in the class ⇒ 30

Pupils absent $\begin{array}{r} {}^{2}\cancel{3}0 \\ -\ 13 \\ \hline 17 \text{ pupils} \end{array}$

15. Find the mean of 3, 7, 5, 2 and 13.

$$\text{Mean} = \frac{\text{Sum of data}}{\text{No. of data}}$$

$$\frac{3+7+5+2+13}{5}$$

$$\frac{30}{5}$$

$$= 6$$

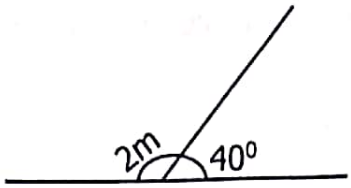
16. Workout: $\frac{3}{4} \times \frac{1}{2}$.

$$\frac{(3\times2)-(1\times4)}{4\times2}$$

$$\frac{6-4}{8}$$

$$\frac{{}^{1}\cancel{2}}{{}^{4}\cancel{8}} = \frac{1}{4}$$

17. Find the size of angle m in the figure below.



$2m + 40^\circ = 180^\circ$ (angles on a straight line)

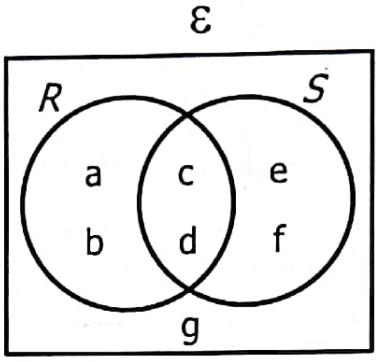
$2m + 40^\circ - 40^\circ = 180^\circ - 40^\circ$

$2m = 140^\circ$

$\frac{2m}{2} = \frac{140}{2}$

$m = 70$

18. Use the Venn diagram below to answer the question below it.



How many elements are not found in set R?

$(R)' = \{e, f, g\}$

$n(R)' = 3$

19. A bag contains 8 red pens and 7 blue pens. Find the probability of picking a red pen from the bag at random.

$n(S.S) = 8 + 7$

$= 15$

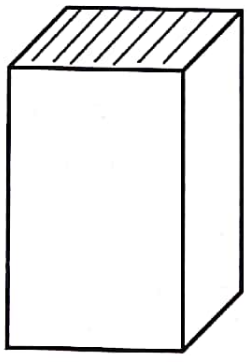
(E) = Red pen

$n(E) = 7$

$\text{Probability} = \frac{n(E)}{n(S.S)}$

$\text{Probability} = \frac{7}{15}$

20. The area of the shaded part of the cuboid below is $15cm^2$. Find its volume.



Volume = Base area x height

Volume = $15cm^2 \times 4cm$

Volume = $60cm^3$

Turn Over

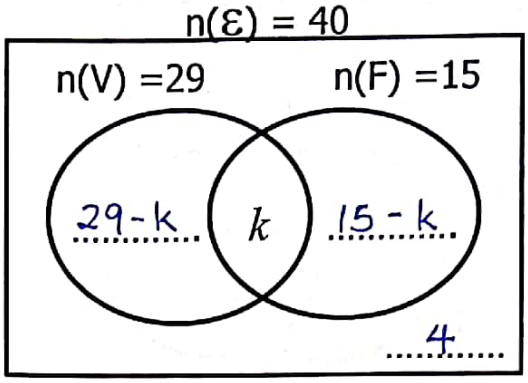
SECTION B: 60 MARKS

Answer **all** questions in this section

Marks for each question are indicated in brackets.

21. In a class of 40 pupils, 29 pupils play Volleyball (V), 15 pupils play Football (F) k pupils play both games while 4 pupils play neither of the two games.

(a) Use the above information to complete the Venn diagram below. (03 Marks)



(b) How many pupils play both games? (02 Marks)

$$
\begin{aligned}
29-k+k+15-k+4 &= 40\\
29+15+4-k+k-k &= 40\\
48-k &= 40\\
48-48-k &= 40-48\\
-k &= -8\\
-k\times -1 &= -8\times -1\\
k &= 8
\end{aligned}
$$

22. Kazibwe was given a twenty thousand shillings note to go to the shop and buy the items listed below.

- 3kg of sugar at Sh.3,000 each kg.
- Pancakes for Sh.2,000
- 2 bars of soap at Sh.2,500 each bar.
- A parking bag for Sh.500.

Calculate the change the shopkeeper gave to Kazibwe. (05 Marks)

Sugar	Pancakes	Soap	Total expenditure	Change
Sh. 3000	Sh. 2,000	Sh. 2,500	Sh. 9,000	Sh. 20,000
x 3	Packing bag	x 2	+ Sh. 5,000	- Sh. 16,500
Sh. 9,000	Sh. 500	Sh. 5,000	Sh. 2,000	Sh. 3500
			Sh. 500	
			Sh. 16,500	

His change was sh. 3,500

23. (a) Samuel started sleeping at 8:00a.m. and woke up at 11:30a.m. For how long did he sleep? (02 Marks)

Duration = Waking up time - sleeping time

HRS	MIN
11	30
-8	00
3	30

Samuel slept for 3 hours and 30 minutes

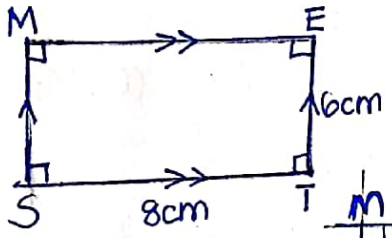
(b) Work out: (02 Marks)

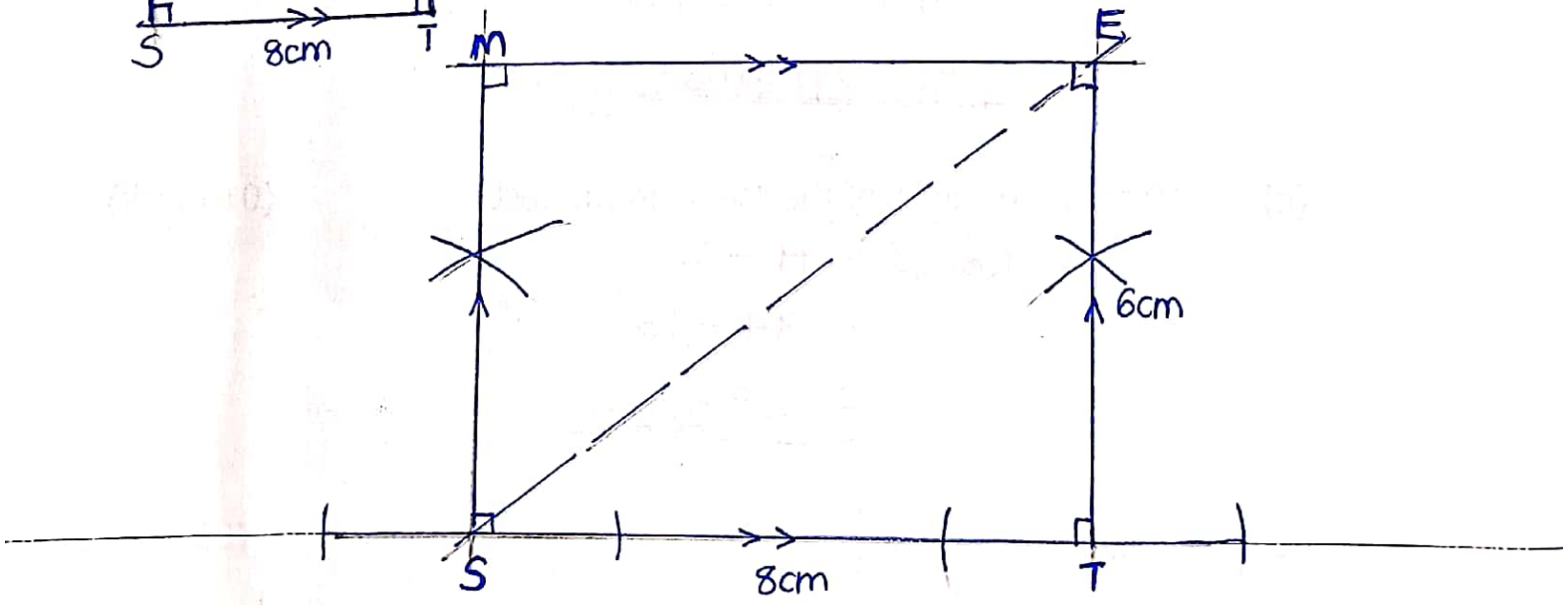
HRS	MIN
14	26
+7	47
12	13

26	73
+47	-60
73	13

24. (a) Using a pair of compasses, a ruler and a sharp pencil only, construct rectangle STEM, where ST = ME = 8cm and TE = 6cm in the space provided below. (04 Marks)

Sketch.





(b) Measure diagonal SE ...10 | 10·1... cm. (01 Mark)

Turn Over

25. In a Literacy test given to a P.2 class, the marks, frequency and total marks are shown in the table below.

Marks	Frequency	Total Marks
4	4	16
5	9	45
6	14	84
7	8	56
9	5	45

(a) Complete the above table (03 Marks)

$\frac{45}{5} = 9$ $\frac{84}{14} = 6$ $7 \times 8 = 56$

(b) How many pupils did the test? (02 Marks)

$4 + 9 + 14 + 8 + 5$

$= 40$ pupils

(c) What is the range of the marks in the test? (01 Mark)

Range $= H - L$

$= 84 - 16$

$= 68$ marks

26. (a) Simplify: $\frac{1}{2} \quad \frac{1}{3} + \frac{1}{4}$ (03 Marks)

$\left(\frac{1}{2} + \frac{1}{4}\right) - \frac{1}{3}$

$\left(\frac{(1\times4)+(1\times2)}{2\times4}\right) - \frac{1}{3}$

$\frac{4+2}{8} - \frac{1}{3}$

$\frac{6}{8} - \frac{1}{3}$

$\frac{(6\times3)-(1\times8)}{8\times3}$

$\frac{18-8}{24}$

$\frac{10}{24}$

OR

$\frac{10}{24} \quad \frac{5}{12}$

$\frac{5}{12}$

(b) Help Sam to arrange fractions; $\frac{1}{3}$, $\frac{1}{4}$ and $\frac{1}{2}$ in descending order without using diagrams. (03 Marks)

$\frac{1}{3}, \frac{1}{4}, \frac{1}{2}$ LCD = 12

$\frac{1}{3_1} \times 12^{4} = 4$

$\frac{1}{4_1} \times 12^{3} = 3$

$\frac{1}{2_1} \times 12^{6} = 6$

Descending order ⇒ $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$

2	3	4	2
2	3	2	1
3	3	1	1
	1	1	1

2×2×3
4×3
= 12

27. The table below shows how a taxi charges passengers from and to different places along Kagoma – Wandegeya route. Use it to answer the questions about it.

Places	Charges
Kagoma to Maganjo	Sh.500
Maganjo to Kawempe.	Sh.1,000
Kawempe to Bwaise	Sh.1,500
Bwaise to Wandegeya	Sh.2,000

(a) How much does a passenger from Maganjo to Bwaise via Kawempe pay? (02 Marks)

Maganjo to Kawempe ⇒ Sh. 1,000
Kawempe to Bwaise ⇒ + Sh. 1,500
Sh. 2 500

(b) If the taxi picks 14 passengers who are travelling directly from Kagoma to Wandegeya and it makes 3 similar trips. How much Money would it collect that day? (04 Marks)

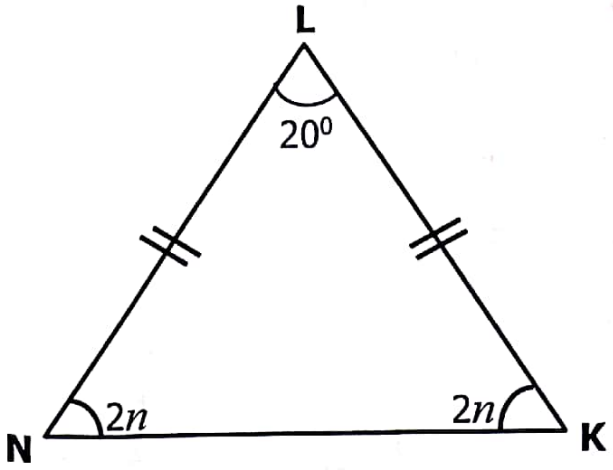
Kagoma to Wandegeya
Sh. 2000
Sh. 1500
+ Sh. 1000
Sh. 500
Sh. 5,000

1 passenger ⇒ sh. 5,000
14 passengers ⇒ Sh. 5000
× 14
+ 20000
5000
Sh. 70000

3 trips
1 trip ⇒ sh, 70,000
3 trips ⇒ Sh. 70,000
× 3
Sh. 210,000

Turn Over

28. The figure below is an Isosceles triangle NKL with angle LNK equal to angle LKN. Use it to answer the questions about it.



(a) Find the value of n if the sum of all the angles in the above triangle is 180^0. (03 Marks)

$2n + 2n + 20^\circ = 180^\circ$

$4n + 20^\circ = 180^\circ$

$4n + 20^\circ - 20^\circ = 180^\circ - 20^\circ$

$4n = 160^\circ$

$\frac{4n}{4_1} = \frac{160^{40}}{4_1}$

$n = 40$

(b) Calculate the size of angle LNK. (02 Marks)

$\angle LNK = 2n$

$= (2 \times 40)^\circ$

$= 80^\circ$

---

29. (a) Given that $m = 6$, $b = 3$ and $n = 2$. Find the value of $\frac{mn}{b}$ (02 Marks)

$\frac{m \times n}{b}$

$\frac{6 \times 2}{3}$

$\frac{12^4}{3_1}$

$= 4$

(b) Taata Sam is 19 years older than his son Sam who is 9 years now. How old is Taata Sam now? (02 Marks)

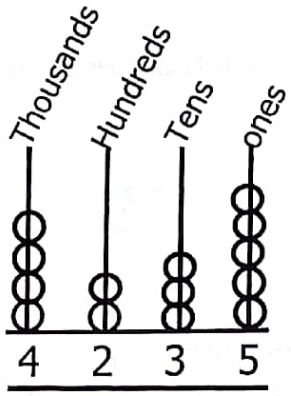
Taata Sam

(19 + 9) yrs.

28 years.

Taata Sam is 28 years old now.

30. The abacus below illustrates a certain number. Use it to answer the questions about it.



(a) Expand the illustrated number using powers of ten. (02 Marks)

10^3	10^2	10^1	10^0
4	2	3	5

$(4 \times 10^3) + (2 \times 10^2) + (3 \times 10^1) + (5 \times 10^0)$

(b) Find the value of the digit in the hundreds place value. (02 Marks)

2 x hundreds

2 x 100

200

(c) What is the product of the value of the digit in the hundreds place value and that in the ones place value? (02 Marks)

Value of 5

5 x ones

5 x 1

= 5

Product

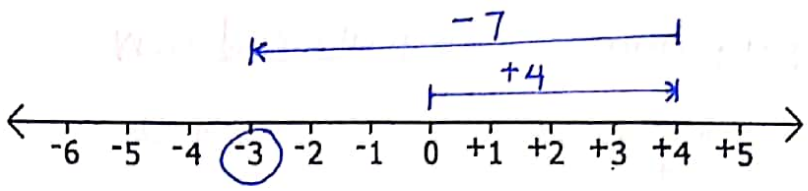
200

x 5

1000

31. Jonathan was told to demonstrate how to use a numberline in real life to the whole class. The teacher told him to move 4 steps forward and begin from where he had stopped to move 7 steps backwards.

(a) Use the numberline below to show Jonathan's movements and circle his answer. (03 Marks)



(b) Write the addition Mathematical statement you have shown on the numberline above. (01 Mark)

$^{+}4 + {}^{-}7 = {}^{-}3$

32. Kamadi sold his radio at Sh.60,000 to Nsamba making a profit of Sh.8,000. Nsamba later sold the same radio to Ntambi at Sh.45,000.

(a) How much did Kamadi buy the radio? (02 Marks)

B.P = S.P - Profit

= Sh. 60,000
- Sh. 8,000
Sh. 52,000

Kamadi bought the radio at sh. 52,000

(b) Write in words, the loss Nsamba made after selling the radio to Ntambi. (02 Marks)

Loss = B.P - S.P

Sh. 60,000
- Sh. 45,000
Sh. 15,000

Fifteen thousand shillings.

END

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