

SUREKEY EXAMINATIONS BOARD PRIMARY SEVEN PLE PREPARATION SET ONE 2023

MATHEMATICS GUIDE

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. Fill in the box correctly.

$$\Box = 6$$

$$6$$

$$\Box = 36$$

$$C \times 1$$

$$C \times 36$$

$$C \times 1$$

$$C \times 6$$

$$C \times 6$$

$$C \times 7$$

$$C \times 6$$

$$C \times 7$$

$$C \times 6$$

$$C \times 7$$

$$C \times 6$$

$$C \times 7$$

Solve for x: 3 - x = 2x. 2.

$$3-x = 2x$$

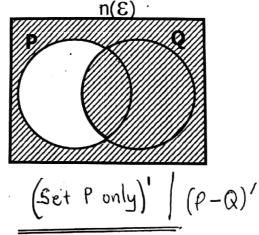
$$3-x+x = 2x+x$$

$$3 = 3x$$

$$\frac{z}{z} = \frac{z}{z}$$

$$1 = x$$

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



Workout: $1\frac{3}{12} \div \frac{5}{6}$.

$$= \frac{(12 \times 1) + 3}{12} = \frac{5}{6}$$

$$= \frac{12 + 3}{12} = \frac{5}{6}$$

$$= \frac{15}{12} = \frac{5}{6}$$

$$= \frac{(12 \times 1) + 3}{12} \stackrel{?}{=} \frac{5}{6}$$

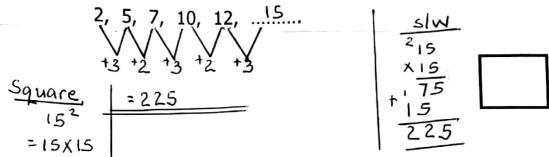
$$= \frac{12 + 3}{12} \stackrel{?}{=} \frac{5}{6}$$

$$= \frac{15}{12} \stackrel{?}{=} \frac{5}{6}$$

$$= \frac{15}{12} \stackrel{?}{=} \frac{5}{6}$$

$$= 2$$

5. Find the square of the missing number in the sequence below:



6. A store received 100 boxes where each box contained 6 plates. A donation of 80 boxes was made to Paragon. How many plates remained at the store?

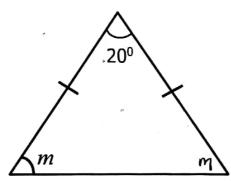
Total number of plates
100x6
600 plates

Plates donated to Paragon 80x6 480 plates

Number of plates that remained	1 5/10
5&100 plates	80 X 6
-480 plates 120 plates	480

: 120 plates remained at the store

7. Find the value of m in the figure below.



$$m + m + 20^{\circ} = 180^{\circ}$$

$$2m + 20^{\circ} = 180^{\circ}$$

$$2m + 20^{\circ} = 20^{\circ} = 180^{\circ} - 20^{\circ}$$

$$2m = 160^{\circ}$$

$$\frac{2m}{x} = \frac{160^{\circ}}{x}$$

$$= 80^{\circ}$$

$$m = 80^{\circ}$$

8. How many 500ml cups would Sarah, the school cook, serve to the nursery kids if she had prepared a big 20 little kettle of milk?

In
$$l = 1$$
 litres

Number of 500ml cups

 $20 \div \frac{1}{2}$

500ml = 500x1

 $= \frac{8}{1000}$
 $= \frac{40 \text{ cups}}{1}$
 $= \frac{1}{1} \text{ litres}$

9. Express 25% as a ratio.

$$\frac{25^{5}}{100}$$

$$= \frac{8^{1}}{204}$$

$$= \frac{1}{4}$$

10. Arinaitwe made a profit of sh.80,000 after selling a sofa set to Bruno at sh.520,000. At how much did Arinaitwe buy the sofa set?

.. Arinaitive bought the sofa set at sh. 440,000.

11. The numbers in the square puzzle below sum up to 18 when added vertically, horizontally and diagonally. Use it to calculate the values of

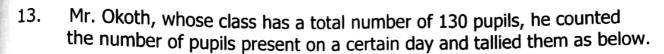
$$x \text{ and } y$$
.
 $Value \text{ of } X$
 $X + 2 + 7 = 18$
 $X + 9 = 18$
 $X + 9 - 9 = 18 - 9$
 $X = 9$

\boldsymbol{x}	2	7
4	6	8
5.	y	3

Value of y	
5tyt3	218
5+3+4	=18
8 + y	= 18
8-8+4	218-8

12. Using a ruler, a pencil and a pair of compasses only, construct an angle of 105° in the space below.

y = 10

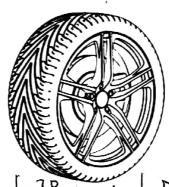


|||| |||| ||||

Write the number of pupils who were absent in Roman Numerals.

Number of pupils present | Number of pupils absent |
$$117 = 100 + 10 + 7$$
 | $130 - 13$ | $C \times VII$ | $130 - 13$ | $C \times VII$ |

The circumference of the car tyre below is 110cm. Calculate the 14. (Use π as $\frac{22}{7}$) radius of the rim of the car tyre.



$$C = JLD$$

$$\frac{70}{170} = \frac{2}{2}LD$$

$$\frac{70}{2} = \frac{2}{2}LD$$
Diameter = 35cm Radius = $\frac{17}{2}$ cm
or radius = $\frac{17}{2}$ cm
$$\frac{110}{1} = \frac{2}{1}LD$$
or radius = $\frac{17}{2}$ cm
$$\frac{35}{7}$$

$$\frac{70}{10} = \frac{2}{10}LD$$

$$\frac{35}{7}$$

$$\frac{70}{10} = \frac{2}{10}LD$$

$$\frac{35}{7}$$

$$\frac{70}{10} = \frac{2}{10}LD$$

$$\frac{35}{7}$$

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$$\frac{35}{7}$$

$$\frac{35}{7}$$

$$\frac{70}{10} = \frac{35}{7}$$

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$$\frac{70}{10} = \frac{35}{7}$$

$$\frac{35}{7} = \frac{35}{7}$$

$$\frac{70}{10} = \frac{35}{7}$$

Diameter = 35 cm Radius =
$$17\frac{1}{2}$$
 cm

Radius = $\frac{D}{2}$ or radius = 17.5 c

= $\frac{35}{2}$

Our school is 120 metres away from the dispensary. How far in kilometres 15. is our school from the dispensary?

Work out the Greatest Common Factor (GCF) of 24 and 28.

Work out the Greatest Common Factor (GCF) of 24 and 28.

Method 1

$$\frac{2 + 28}{2 + 28}$$
 $\frac{2 + 28}{2 + 28}$
 $\frac{2$

$$F_{24} = \{1, 2, 3, 4, 6, 8, 12, 24\}$$

$$F_{28} = \{1, 2, 4, 7, 14, 28\}$$

$$CF = \{1, 2, 4\}$$

17.	Shakirah bought 5 more blu of pens altogether. Find the	ue pens than red pens. If probability of randomly	she bought a dozen picking a red pen
	from the box.	r+5=12	Probability = Cho

18. Show the time 'a quarter to seven o'clock' on the clock face below.



19. Find the quotient of (0.12 - 0.06) and 0.06.

$$\begin{array}{c|c} (0.12-0.06) \div 0.06 & = 1 \\ 0.06 \div 0.06 & = 1 \\ \hline = 6 \div 6 \\ 100 & 100 \\ \hline = 8 \times 188 \\ 188 & 8 \end{array}$$

20. Annet banked Sh.4,000,000 in a bank and after 9 months, she found out that the money on her account had accumulated to Sh.4,360,000.At what simple interest rate had the bank increased the money on her account?

Simple Interest rate.

sh. 4,360,000

-sh.
$$\frac{4,000,000}{0,360,000}$$

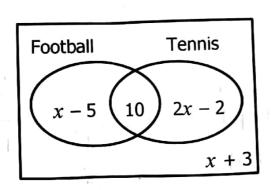
sh. $\frac{360,000}{0,360,000}$

SI = sh. $\frac{360,000}{360,000}$
 $\frac{360,000}{4}$
 $\frac{10000}{1000}$
 $\frac{360,000}{4}$
 $\frac{360,000}{360,000}$
 $\frac{360,000}{4}$
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 $\frac{360,000}{4}$

SECTION B: 60 MARKS

Answer **all** questions in this section Marks for each question are indicated in brackets.

21. Study the Venn diagram below and use it to answer the questions that follow.



(a) Given that the number of pupils who play Tennis is twice the number of those who don't play it. Find the value of x.

(03 Marks)

$$2x-2+10 = 2(x-5+x+3)$$

$$2x+8 = 2(x+x-5+3)$$

$$2x+8 = 2(2x-2)$$

$$2x+8 = 4x-4$$

$$8+4 = 4x-2x$$

$$12 = 2x$$

$$12 = 2x$$

$$13 = 2x$$

$$14 = 2x$$

$$14 = 2x$$

$$14 = 2x$$

$$15 = 2x$$

$$17 = 2x$$

$$17 = 2x$$

$$18 = 2x$$

$$18 = 2x$$

$$19 = 2x$$

$$19 = 2x$$

$$10 = 2x$$

$$10 = 2x$$

(b) How many pupils who don't play football?

(02 Marks)

$$= 2x-2+x+3$$

$$= 2(6)-2+6+3$$

$$= (2x6)-2+6+3$$

$$= 12-2+6+3$$

$$= (12+6)+3-2$$

$$= (18+3)-2$$

$$= 21-2$$

$$= 19 \text{ pupils}$$

: 19 pupils don't play

22. (a) Workout:
$$332_{\text{five}} - 23_{\text{five}}$$

$$\frac{3^{2}3^{2}2_{\text{five}}}{250^{2}4^{2}}$$

$$\frac{s|w}{5+2} = 7$$
 $7-3 = 4$
(02 Marks)

(03 Marks)

Two radio stations CBS and KFM play Omutume Planet's song 23. "Chai we Njaye" at intervals of 30 and 40 minutes respectively.

After how many minutes will the two radio stations play the song (a) (02 Marks) together at the same time?

2	30	40
2	15	20
2	15	10
3	15	5
5	5	5
	l	1
10.00		

$$(2 \times 2) \times (2 \times 3) \times 5$$

$$(4 \times 6) \times 5$$

$$24 \times 5$$

$$120$$
The two stations will play the song after 120 minutes

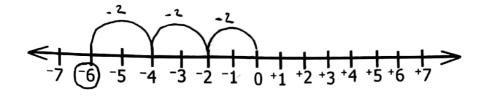
If the two stations first played the song at 11:30a.m. At what time will they play the same song again at the same time?

1:30pm.

: They will play the same song

(b) Use the numberline below to work out
$$3 \times 72$$
.

(02 Marks)





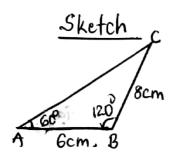
25. Given the number 496.532. Use it to answer the questions about it.

(a) Write the place value of **3** in the above number.

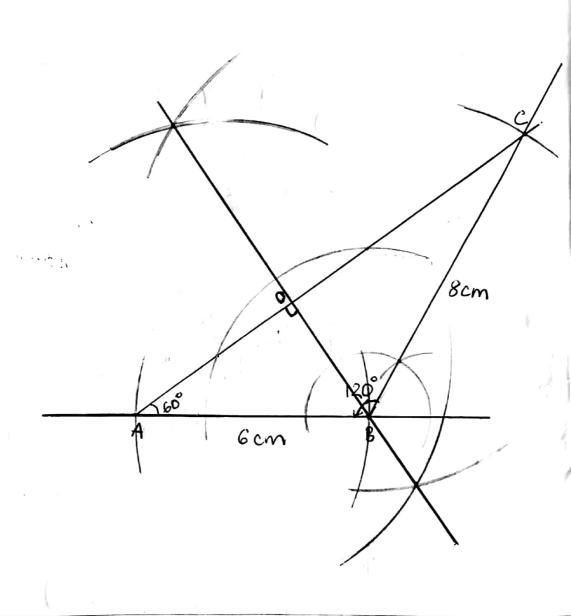
(01 Marks)

(b) Work out the quotient of the value of digit 9 and the place value of 3 in the above number. (03 Marks)

26. (a) Using a ruler, a pencil and a pair of compasses only, construct triangle **ABC** where line **AB** = 6cm, angle **CAB**=60°, angle **ABC** = 120° and length **BC** = 8cm. Drop a perpendicular from **B** to meet length **AC** at point **O**. (05 Marks)



Accurate diagram.

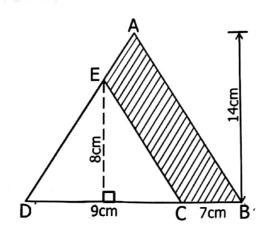


(b) Measure the length AC. 11912, 12-1 cm

(01 Mark)



The diagram below shows a small triangle **EDC** enclosed in big triangle **ADB**. 27. Study it carefully and answer the questions that follow.



Find the area of triangle ADB. (a)

Base of ADB
$$= 9+7$$

$$= 16cm$$
Height = 14cm

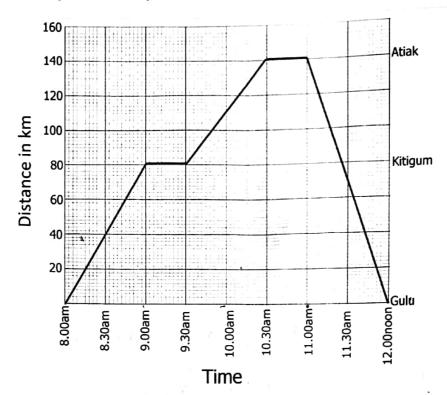
Area = $1 \times base \times height$

$$= 1 \times 4 \times 14$$

$$= 1 \times 4 \times 14$$
Area = 8×14
Area = 112×14

Calculate the area of the shaded part. (b)

28. The travel graph below shows Opoloti's journey from Busega to Lukaya and back. Study it carefully and answer the questions that follow.



(a) Calculate the total time Opoloti rested during his journey. (01 Mark)

(b) At what speed did Opoloti drive from Atiak back to Gulu?

(c) Work out Opoloti's average speed for the whole journey. (03 Marks)

Average speed =
$$\frac{700 \text{km}}{4 \text{hours}}$$

- 29. There are seven classes at our school. Each class has 4 streams, each stream has pupils seated in 3 columns and each column has 6 desks.
 - (a) If a teacher seats 3 pupils on each desk, find the number of pupils in each stream.

1 column = 6 desks

Number of pupils in a column:

1 desk = 3 pupils
6 desks = 6 x 3
= 18 pupils

Number of pupils in a	(02 Marks)
stream.	SIW
18 x 3	2 18
,	<u>x 3</u>
54 pupils	54

(b) How many pupils are in each class?

1 class = 4 streams but: 1 stream = 54 pupils. + streams = (54 x4) pupils = 2 16 pupils

- = Each class has 216 pupils.
- (c) Calculate the total number of pupils in the school. (02 Marks)

Method 1.	IVIETHIO
1 class = 216 pupils 7 classes = 216	2
<u> </u>	+ 2
1512 pupils	2
T	2
: The school has 1512 pupils	2
	15

- 30. Patrick has four sons. Jumba, Jack, John and Joseph. Joseph is two years older than John while Jack and Jumba's age is $\frac{2}{3}$ Joseph's age. If the total age of the four boys is 30 years.
 - (a) How old is John? Let John's age be m John = m years

Joseph = (m+2) years

Jack and Jumba = 2 (m+2) years

Total age = 30 years.

 $m + m + 2 + \frac{2}{3}(m+2) = 30$ $3x(2m+2) + \frac{2}{3}(m+2)x^{3} = 30x3$

3(2m+2) + 2(m+2) = 906m +6 +2m +4 6m+2m+6+4

(03 Marks)

8m +10 =90 8m+10-10 = 90-10 8m 8m

=10

John =10 years

: John 15 10 years

Work out the range between the age of the oldest boy and that of (b) Jack and Jumba. (02 Marks)

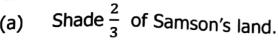
Loseph = (m+2) years = (10+2) years = 12 years

Range = Highest - Lowest Range = (12 - 8) years Range = 4 years

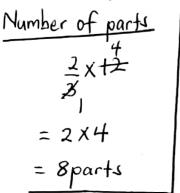
Jack and Jumba

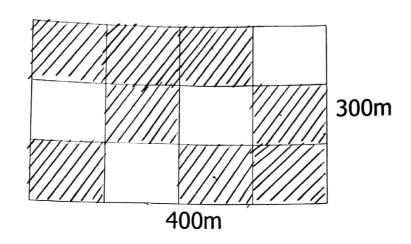
- $=\frac{2}{3}(m+2)$ years
- $= \frac{2(10+2)}{3}$ $= \frac{2}{3} \times 12$
- = 2 X 4
- = 8 year

31. Samson bought a rectangular piece of land measuring 400m by 300m and divided it into equal square plots as shown below.



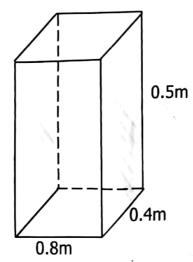
(02 Marks)





(b) If Samson sold $\frac{1}{2}$ of the unshaded plots of land to Tom. How much land did he remain with? (03 Marks)

32. A rectangular container measures 0.8m long, 0.4m wide and 0.5m high as shown below.



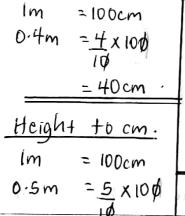
What is the capacity of the container in litres?

Length to cm.

Im = 100cm

$$0.8m = 8 \times 100$$
 $= 80cm$

Width to cm:



= 50cm

(05 Marks)

	slw
	32
-	X 5