WAKISO DISTRICT JOINT EXAMINATIONS BOARD
(WAKISO MAIN, KIRA, MAKINDYE AND NANSANA MUNICIPALITY)
PRIMARY SEVEN INTERNAL ASSESSMENT
2024
MATHEMATICS
Time Allowed: 2 hours 30 minutes

Index No.

	Random No.				Personal No.		

Candidate's Name: SSEBALU ISMAEL

Candidate's signature: 0774006187

School Name: Marking guide/ assistant

District/Municipality: WAKISO

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO
Read the following Instructions Carefully:

1. This paper has two sections A and B.
2. Section A has 20 questions (40 marks).
3. Section B has 12 questions (60 marks).
4. Answer all questions. All the working for both sections A and B must be shown in spaces provided.
5. 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.
6. No calculators are allowed in the examination room.
7. Unnecessary changes and crossings in your work and handwriting that cannot easily be read may lead to loss of marks.
8. Do not write anything in the boxes indicated "For examiners' use only"
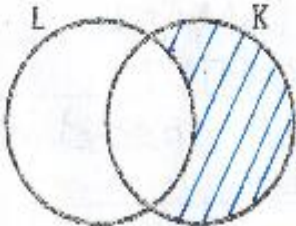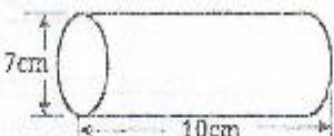9. Write your name on all pages.

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		

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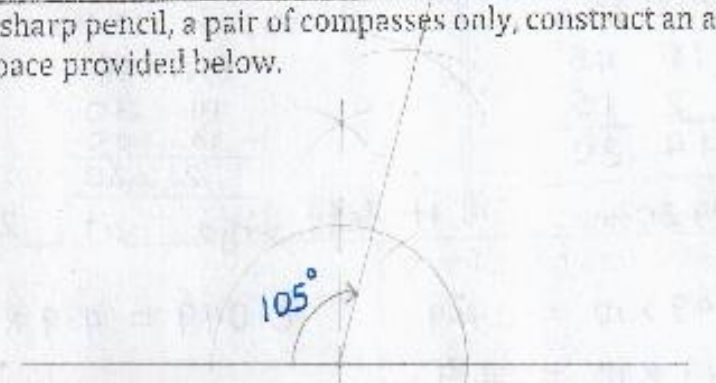
1.	Work out: $12 \div 3 = 4$ $$\begin{array}{r} 4 \\ 3\overline{)12} \\ 3\times4 \quad \underline{-12} \\ 00 \end{array}$$ $12 \div 3 = 4$	2	Express CXLV in Hindu Arabic numerals. $C \cdot XL \quad V$ $100 + 40 + 5$ 145 $$\begin{array}{r} 100 \\ 40 \\ + \quad 5 \\ \hline 145 \end{array}$$

3.	In the diagram below, shade only the region that represents K.	4.	Write in figures: Two and two thousandths. $Two = 2$ $Two\ thousandths = \dfrac{2}{1000}$ $2 + \dfrac{2}{1000}$ $2 + 0.002$ $$\begin{array}{r} 2\cdot000 \\ +0\cdot002 \\ \hline 2\cdot002 \end{array}$$

5.	Find the volume of the cylinder below. $\left(use: \pi = 3\tfrac{1}{7}\right)$ 7cm 10cm $Vol = Base\ area \times height$ $vol = \pi r^2 \times h$ $vol = 3\tfrac{1}{7} \times \tfrac{7cm}{2} \times \tfrac{7cm}{2} \wedge 10cm$ $vol = \dfrac{22}{7} \times \tfrac{7cm}{2} \times \tfrac{7cm}{2} \times \tfrac{5}{10}cm$ $$\begin{array}{r} 77 \\ \times \quad 5 \\ \hline 38.5 \end{array}$$ $Vol = 385\ cm^3$ $Vol = 385\ cm^3$

6.	Find the next two numbers in the sequence below. $22, 20, 17, 15, 12, \underline{\quad 10 \quad}, \underline{\quad 7 \quad}$ $12 - 2 = 10$ $10 - 3 = 7$

7.	In a dairy, the cost of a litre of milk decreased from shs. 3,000 to shs. 2,400. What was the percentage decrease? Reduction. $$\begin{array}{r} sh.\ 3000 \\ -sh.\ 2400 \\ \hline sh.\ 0600 \end{array}$$ Percentage decrease. $\left(\dfrac{Reduction}{Original\ price} \times 100\right)\%$ $\left(\dfrac{sh.\ 600}{sh.\ 3000} \times 100\right)\%$ 20%

8.	Workout: $2121 \div 7 = 303$ $$\begin{array}{r} 303 \\ 7\overline{)2121} \\ 3\times7= \underline{21}\downarrow \\ 2 \\ 0\times7 \quad 0\downarrow \\ 21 \\ 3\times7 \quad \underline{21} \\ 00 \end{array}$$ $2121 \div 7 = 303$

9.	A school has 11 male teachers and 7 female teachers. What is the probability of a female teacher chairing a staff meeting?	10.	Solve: $4(5p-8)=48$	Method II

9. A school has 11 male teachers and 7 female teachers. What is the probability of a female teacher chairing a staff meeting?

Total chances	Probability
$11+7$	$\dfrac{Chance}{Total\ chances}$
18	$\dfrac{7}{18}$

10. Solve: $4(5p-8)=48$

$4(5p-8)=48$

$20p-32=48$

$20p-32+32=48+32$

$20p \quad = 80$

$\dfrac{20p}{20} = \dfrac{80}{20}$

$P = 4$

Method II

$4(5p-8)=48$

$\dfrac{4(5p-8)}{4} = \dfrac{48}{4}$

$5p-8 = 12$

$5p-8+8 = 12+8$

$5p = 20$

$\dfrac{5p}{5} = \dfrac{20}{5}$

$p = 4$

11. A taxi travelling from Jinja to Wakiso arrived at 16:45 hours. If it took 2 hours and 15 minutes travelling, at what time did it leave Jinja for Wakiso? (give time in 12 hour clock system)

Starting time = Ending time – Duration.

Hrs	Min
16	45
– 2	15
14	30

14 30 hrs

Time in 12 hour clock system.

Hrs	Min
14	30
– 12	00
2	30

It left Jinja at 2:30 p.m

12. Write 0.049 in standard form.

$0.049 \times 10 = 0.49$

$0.49 \times 10 = 4.9$

4.9×10^{-2}

$0.049 = 4.9 \times 10^{-2}$

13. A money lender gives a simple interest of 9% per week. What will be the interest on shs. 161,000 for 4 days?

$S.I = P \times R \times T$

7 days = 1 week

1 day = $\dfrac{1}{7}$ weeks

4 days = $4 \times \dfrac{1}{7}$ weeks

4 days = $\dfrac{4}{7}$ weeks

$Shs.161,000 \times \dfrac{9}{100} \times \dfrac{4}{7}$

$Shs.\overset{230}{161,000} \times 9 \times \dfrac{4}{7}$ $\dfrac{100}{}$

Shs 8280

The interest will be shs. 8280

$\begin{array}{r} 23 \\ \times 36 \\ \hline 138 \\ +69 \\ \hline 828 \end{array}$

14.	The exterior angle of a polygon is 72°, name the polygon.	15.	Find the mean of $(7p - 4)$, 19 and $2p$

14. The exterior angle of a polygon is 72°, name the polygon.

No. of sides.

$$\frac{\text{Exterior angle sum}}{\text{Each exterior angle}}$$

	Name of the polygon.
$\dfrac{\overset{5}{\cancel{360}^{\circ}}}{\cancel{72}} $	Pentagon.
2_{1}	

5 sides

15. Find the mean of $(7p - 4)$, 19 and $2p$

$$\text{Mean} = \frac{\text{sum of data}}{\text{number of data}}$$

$$\frac{7p - 4 + 19 + 2p}{3} \qquad \frac{9p + 15}{3}$$

$$\frac{7p + 2p + 19 - 4}{3} \qquad \frac{\overset{3}{\cancel{9p}}}{\cancel{3}} + \frac{\overset{5}{\cancel{15}}}{\cancel{3}}$$

$$\frac{9p + 15}{3} \qquad 3p + 5$$

16. The number of proper subsets in set K is 63. Find $n(k)$

$$2^n - 1 = C$$

$$2^n - 1 = 63$$

$$2^n - 1 + 1 = 63 + 1$$

$$2^n = 64$$

$$2^n = 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

$$2^n = 2^6$$

$$n = 6$$

$n(k) = 6$.

2	64
2	32
2	16
2	8
2	4
2	2
	1

17. Using a sharp pencil, a pair of compasses only, construct an angle of 105° in the space provided below.

105°

18. Work out the product of the 5th and the 8th composite number.

Composite numbers.

4, 6, 8, 9, 10, 12, 14, 15, 16, 18 ...
          ↑   ↑
         5th   8th

Product

10 × 15

150

19. It is July now, which month of the year was It 114 months ago?

Jan	Feb	Mar	Apr	May	Jun	Jly	Aug	Sep	Oct	Nov	Dec
1	2	3	4	5	6	7	8	9	10	11	0

$$\text{July} - 114 = \_\_ \pmod{12}$$

$$7 - \frac{114}{12} = \_\_ \pmod{12}$$

$$7 - (9 \text{ rem } 6) = \_\_ \pmod{12}$$

$$7 - 6 = 1 \pmod{12}$$

$$7 - 114 = 1 \pmod{12}$$

1 represent January.

So, It was January.

23 Below is multiplication of two numbers in base five on abacus. Study and answer the questions that follow.

Five fives   five   ones   fives ones   five five fives   Five fives   five   ones

1   0   3   1   2   1   2   4   1
         five   five   five

(a)	Write down the multiplication number shown on the abacus.	(b)	Workout the multiplication and show the answer on the third abacus.

(a)

$103_{five} \times 12_{five}$

(2mks)

(b) abacus. $6 \div 5 = 1 \, rem 1$

$$
\begin{array}{r}
1\ 0\ 3_{five} \\
\times\ \ 1\ 2_{five} \\
\hline
2\ 1\ 1 \\
+\ 1\ 0\ 3\ \ \ \\
\hline
1\ 2\ 4\ 1_{five}
\end{array}
$$

(3mks)

24. In a farm there are 12% less sheep than goats. If there are 77 sheep, how many animals are in the farm altogether?

Total animals

(3)
25
7
175

let the percentage for sheep be k

Sheep%	Goats%	Total %
k	k+12	100

$k + k + 12\% = 100\%$

$2k + 12\% = 100\%$

$2k + 12\% - 12\% = 100\% - 12\%$

$2k = 88\%$

$\dfrac{2k}{2} = \dfrac{88\%}{2}$

$k = 44\%$

Percentage for sheep is 44%

44% represent 77 animals

1% represent $\dfrac{77}{44}$ animals

100% represent $\dfrac{25}{100} \times \dfrac{7}{77}$ animals

100% represent 175 animals.

175 animals are on the farm.

(5mks)

25 Irene is 10 years old, Sarah is 30 years old.
(a) After how many years will Sarah's age be twice Irene's age?

let years be k

	Irene	Sarah
Now	10	30
After	k+10	k+30

$2(k+10) = k+30$

$2k + 20 = k+30$

$2k - k + 20 = k - k + 30$

$k + 20 = 30$

$k + 20 - 20 = 30 - 20$
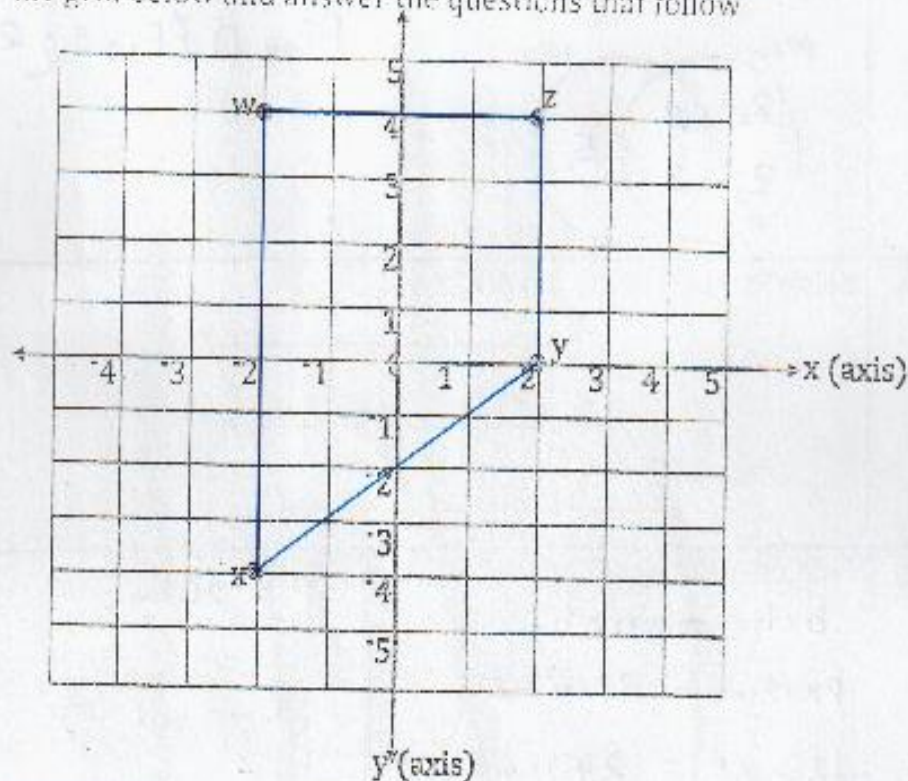
$k = 10$

After 10 years.

(3mks)

What will be their total age by then?

$(k+10) + (k+30)$

$10 + 10 + 10 + 30$

$20 + 40$

60

Their total age will be 60 years.

$$
\begin{array}{r}
2\ 0 \\
+\ 4\ 0 \\
\hline
6\ 0
\end{array}
$$

(2mks)

26	Study the grid below and answer the questions that follow

y''(axis)

(a)	Name the point	(b)	Join the points to form a
	(i) w $(-2, 4)$		geometrical figure and workout
			its area if 1 square represents
			1dm. Area $= \dfrac{h(a+b)}{2}$
	(ii) y $(2, -4)$ y $(2, 0)$		Area $= \dfrac{4dm \ (4dm + 8dm)}{2}$
			Area $= \dfrac{\overset{2}{4}dm \times 12dm}{\underset{1}{2}}$
	(2mks)		Area $= 24$ sq. dm (3mks)

27.	Express the following numbers as products of their prime factors and
(a)	write the answers in set notation.

(i) 24

2	24
2	12
2	6
3	3
	1

$24 = 2 \times 2 \times 2 \times 3$

$PF_{24} = \{ 2_1, 2_2, 2_3, 3_1 \}$

(ii) 30

2	30
3	15
5	5
	1

$30 = 2 \times 3 \times 5$

$PF_{30} = \{ 2_1, 3_1, 5_1 \}$

(1mk each)

(b)	Show the factors on the Venn diagram below

$$PF_{24} \cap PF_{30} = \{2_{,,} 3_{,}\}$$

PF₂₄ ······· PF₃₀

2_2 2_1 5_1
2_3 3_1

(3mks)

28.	Below is a parallelogram ABCD.

D ———— C

8cm

12cm ⊐P

A 30cm B

(a)	Find the value of P.

$$P = 20 \text{ cm}$$

$$b \times h = b \times h$$

$$P \times 12cm = 30cm \times 8cm$$

$$12cm \times P = 240 \, cm \times cm$$

$$\frac{\cancel{12cm} \times P}{\cancel{12cm}} = \frac{\overset{20}{\cancel{240}}cm \times cm}{\cancel{12cm}}$$

(3mks)

(b)	Work out the perimeter of the parallelogram ABCD.

$$30cm + 20cm + 30cm + 20cm$$

$$50cm + 50cm$$

$$100cm$$

$$\begin{array}{r} 30 \\ +20 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 50 \\ +50 \\ \hline 100 \end{array}$$

(2mks)

29.	During an oral interview, Mr. Kihene awarded 5 marks for every correct answer given and deducted 2marks for every wrong answer given. If he asked 24 questions and Amutos got 43 marks, how many wrong answers did Amutos give?

let correct answers be k

	Correct	Wrong	Total
Qns	k	24-k	24
Marks	5×k	2(24-k)	43
	5k	48-k	

$$5k - (48-2k) = 43$$

$$5k - 48 + 2k = 43$$

$$5k + 2k - 48 = 43$$

$$7k - 48 + 48 = 43 + 48$$

$$7k = 91$$

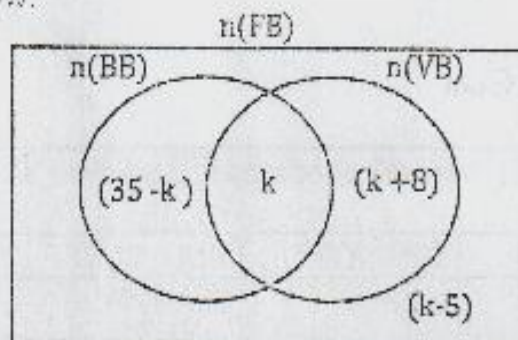$$\frac{7k}{7} = \frac{\overset{13}{\cancel{91}}}{\cancel{7}}$$

$$k = 13$$

Wrong questions answers

$$\begin{array}{r} 24 \\ -13 \\ \hline 11 \end{array}$$

Amutos gave 11 wrong answers

7
14
21
18
35
42
49

(5mks)

30	The Venn diagram below shows a school team of players who play football (FB), basket ball (BB) and volley ball (VB). Study it and answer the questions that follow.

n(FB)

n(BB)   n(VB)

(35 - k)   k   (k + 8)

(k-5)

(a)	If 17 players do not play basket ball, find the number of players who play all the three games.	(b)	How many players are in the school team?

(a)
$(K+8)+(K-5) = 17$

$K+8+ K-5 = 17$

$K+K+8-5 = 17$

$2K + 3 = 17$

$2K+3-3 = 17-3$

$2K = 14$

$\frac{2K}{2} = \frac{14}{2}$

$K = 7$

7 pupils play all the three games. (3mks)

(b)
$(35-K)+ K +(k+ 8)+(k - 5)$

$(35-7) +7 +(7+8) + (7-5)$

$28 +7 + 15 + 2$

$28+2 + 15+7$

$30 + 22$

52

$\begin{array}{r} 30 \\ +22 \\ \hline 52 \end{array}$
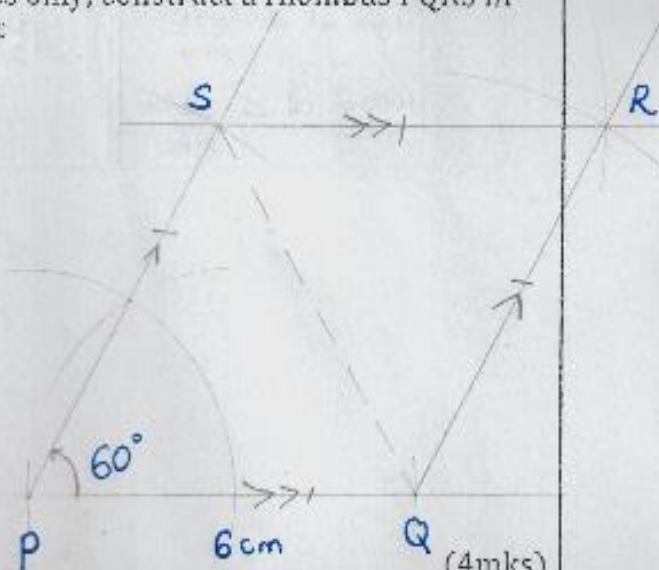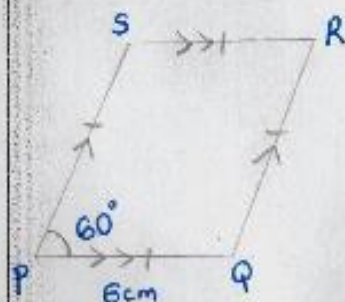
52 players are in a school team. (2mks)

31.	Using a ruler and a pair of compasses only, construct a rhombus PQRS in which PQ= 6cm and angle SPQ= 60°

Sketch

S   R

60°

P   6cm   Q

S   R

60°

P   6 cm   Q   (4mks)

(b) | Measure diagonal SQ.

6cm

$\overline{SQ} = 6cm$

(1mk)

32. | Below is Tr. Kapisa's shopping list. Study and complete it correctly.

ITEM	QUANTITY	UNIT COST	AMOUNT
Milk	2 litres	Shs. 1200	Shs. 2,400
Salt	500gm	Shs. 3000	Shs. 1500
Posho	1½ kg	Shs. 3000	Shs. 4500
Soap	3 bars	Shs. 4,000	Shs. 12000
TOTAL EXPENDITURE			Shs. 20,400

Milk.
1 litre at shs. 1200
2 litres at shs 1200×2
Shs. 2400

☑ Salt.
1kg = 1000gm.
500gm at sh. 1500
1gm at shs 1500
            800
1000gm at shs 3×1000
            Sh. 3000

Posho.
Shs 4500
shs 3000
45 ÷ 3
30 ÷ 2
3/2
1½

Amount for 3 items
Amount for Soap.
sh. 20,400 - (sh 2400 +
            sh 1500 +
            sh 4500
            sh 8400
Sh. 20,400 - sh 8400

Sh. 20,400
- sh. 8,400
sh. 12,000

Unit cost
for Soap.
3 bars at sh. 12000
1 bar at sh. 12000
                4000
                3
1 bar at sh. 4000

(5mks)