

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: **0156765866**

Candidate's signature: **Solongo**

School Name: **Johnson**

District/Municipality: **Johnson**

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

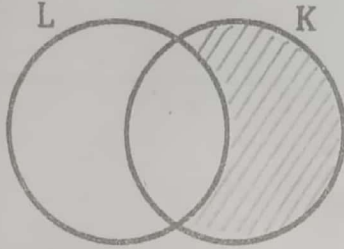
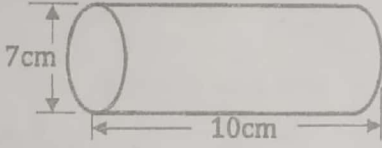
FOR EXAMINERS' USE ONLY		
Qn. No	Marks	EXR'S NO.
1-5		
6-10		
11-15		
16-20		
21-22		
23-24		
25-26		
27-28		
29-30		
31-32		
TOTAL		

ORGANISED AND PUBLISHED BY:

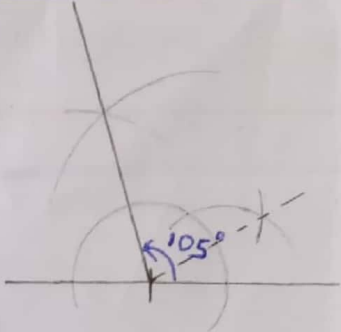
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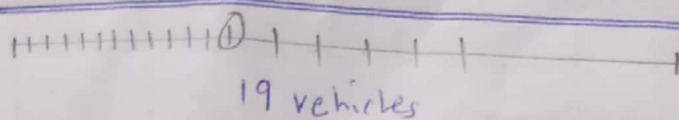
SECTION A (40 MARKS)

1.	Work out: $12 \div 3$	2.	Express CXLV in Hindu Arabic numerals.
	$\begin{array}{r} 12 \\ 3 \overline{) 12} \\ \underline{3} \\ 0 \\ \underline{0} \\ 0 \end{array} = 4$		$\begin{array}{r} C \rightarrow 100 \\ XL \rightarrow 40 \\ V \rightarrow + 5 \\ \hline 145 \end{array}$
3.	In the diagram below, shade only the region that represents K.	4.	Write in figures: Two and two thousandths.
			$\begin{array}{r} \text{Two} \rightarrow 2 \\ \text{Two thousandths} \rightarrow 0.002 \\ \hline 2.002 \end{array}$
5.	Find the volume of the cylinder below. (use: $\pi = 3\frac{1}{7}$)		
			$\begin{aligned} V &= \pi r^2 h \\ &= \frac{22}{7} \times 7^2 \times 10 \\ &= 11 \times 35 \text{ cm}^3 \\ &= 385 \text{ cm}^3 \end{aligned}$
6.	Find the next two numbers in the sequence below.		
	$22, 20, 17, 15, 12, \underline{10}, \underline{7}, \underline{4}$ $\begin{array}{ccccccc} & \swarrow & \searrow & \swarrow & \searrow & \swarrow & \searrow \\ -2 & & -3 & & -2 & & -3 \end{array}$		$1 - 0.3 = -0.7$
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?		
	$\begin{array}{r} \text{Decrease} \\ \text{shs. } 3000 \\ - \text{shs. } 2400 \\ \hline \text{shs. } 600 \end{array}$	$\begin{array}{r} \text{percentage decrease} \\ \left(\frac{\text{shs. } 600}{\text{shs. } 3000} \times 100 \right) \% \\ \hline 20\% \end{array}$	$= 20\%$
8.	Workout: $2121 \div 7$		
	$\begin{array}{r} 303 \\ 7 \overline{) 2121} \\ \underline{21} \\ 0 \\ \underline{0} \\ 0 \end{array} = 303$		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: $4(5p - 8) = 48$																
	<table><tr><td>Total teachers</td><td></td></tr><tr><td>$11 + 7 = 18$ teachers</td><td></td></tr><tr><td>probability = $\frac{7}{18}$</td><td></td></tr></table>	Total teachers		$11 + 7 = 18$ teachers		probability = $\frac{7}{18}$			<table><tr><td>$4(5p - 8) = 48$</td><td></td></tr><tr><td>$20p - 32 = 48$</td><td></td></tr><tr><td>$20p - 32 + 32 = 48 + 32$</td><td></td></tr><tr><td>$\frac{20p}{20} = \frac{80}{20}$</td><td></td></tr><tr><td>$p = 4$</td><td></td></tr></table>	$4(5p - 8) = 48$		$20p - 32 = 48$		$20p - 32 + 32 = 48 + 32$		$\frac{20p}{20} = \frac{80}{20}$		$p = 4$	
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$p = 4$																			
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)																		
	<table><tr><td>Hours</td><td>minutes</td><td rowspan="6">2:30pm</td></tr><tr><td>16</td><td>45</td></tr><tr><td>- 2</td><td>15</td></tr><tr><td>14</td><td>30</td></tr><tr><td>- 12</td><td>00</td></tr><tr><td>2</td><td>30</td></tr></table>	Hours	minutes	2:30pm	16	45	- 2	15	14	30	- 12	00	2	30					
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16	45																		
- 2	15																		
14	30																		
- 12	00																		
2	30																		
12.	Write 0.049 in standard form.																		
	<table><tr><td>0.049</td><td rowspan="4">4.9×10^{-2}</td></tr><tr><td>0.049×10</td></tr><tr><td>0.49×10</td></tr><tr><td>4.9</td></tr></table>	0.049	4.9×10^{-2}	0.049×10	0.49×10	4.9													
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4.9																			
13.	A money lender gives a simple interest of 9% per week. What will be the interest on shs. 161,000 for 4 days?																		
	<table><tr><td>Interest = $P \times R \times T$</td><td rowspan="3">$= \text{shs. } 8280$</td><td rowspan="3"><table><tr><td>36</td></tr><tr><td>$\times 23$</td></tr><tr><td>108</td></tr><tr><td>+ 720</td></tr><tr><td>828</td></tr></table></td></tr><tr><td>$= \text{shs. } 161000 \times \frac{9}{100} \times \frac{4}{7}$</td></tr><tr><td>shs. 8280</td></tr></table>	Interest = $P \times R \times T$	$= \text{shs. } 8280$	<table><tr><td>36</td></tr><tr><td>$\times 23$</td></tr><tr><td>108</td></tr><tr><td>+ 720</td></tr><tr><td>828</td></tr></table>	36	$\times 23$	108	+ 720	828	$= \text{shs. } 161000 \times \frac{9}{100} \times \frac{4}{7}$	shs. 8280								
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14.	The exterior angle of a polygon is 72° , name the polygon.	15.	Find the mean of $(7p - 4)$, 19 and $2p$
	$\text{Number of sides} = \frac{360^\circ}{72^\circ} = 5 \text{ sides}$ <p>Regular Pentagon</p>		$\frac{(7p-4)+19+2p}{3}$ $\frac{7p+2p+19-4}{3}$ $\frac{9p+15}{3}$ $3p+5$
16.	The number of proper subsets in set K is 63. Find $n(k)$		
	$\text{Proper subsets} = 2^n - 1$ $2^n - 1 = 63$ $2^n + 1 = 63 + 1$ $2^n = 64$	$2^n = 2^6$ $n = 6$ $n(k) = 6$	64 2^{32} 2^{16} $2^8 = 2^6$ 2^4 2^2 2^1
17.	Using a sharp pencil, a pair of compasses only, construct an angle of 105° in the space provided below.		
			
18.	Work out the product of the 5 th and the 8 th composite number.	19.	It is July now, which month of the year was it 114 months ago?
	$4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21$ $10 \times 15 = 150$ $= 150$		<p>July stands for 7</p> $7 - 114 = -(\text{finite } 12)$ <p>Express 114 in finite 12</p> $\frac{114}{12} = 9 \text{ rem } 6$ $\left(\frac{2}{4} \times \frac{3}{2}\right) \text{ months}$ $= 6$ <p>$7 - 6 = -(\text{mod } 12)$ $= 1 (\text{mod } 12)$ The month was January</p>

0. In a line of vehicles, a lorry is the 7th from one side of the line and it is the 13th from the other side of the line. How many vehicles are in the line altogether?



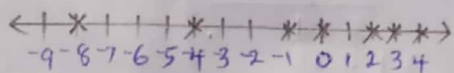
or
 $(13+7)-1$
 $20-1$

= 19 vehicles

SECTION B (60 MARKS)

21. (a) Arrange the following integers in descending order.

$-8, +2, -4, 0, +4, -1, +3$

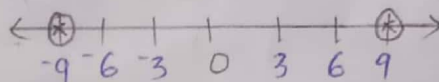


$+4, +3, +2, 0, -1, -4, -8$

(2mks)

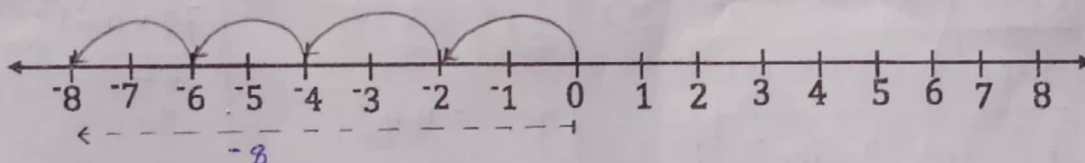
- (b) Use $>$, $<$ or $=$ to complete the statement below correctly.

-9 $<$ $+9$



(1mk)

- (c) Workout 4×-2 on the number line below.



(2mks)

22. (a) 1 US dollar = Ug shs 3500 and 1 Kenyan shilling (Ksh) = Ug shs 35
 Opio has 28 US dollars and 148 Kenyan shillings. How much money in Ugandan shillings does he have?

dollars	kenya	ug. shs
28	148	98000
$\times 35$	$\times 35$	5180
980	1740	
700	4440	
9800	5180	103180

(3mks)

- (b) If a shirt costs Ksh. 40,000, what is the cost of the shirt in US dollars?

$$\left(\frac{40,000 \times 35}{3500} \right) \text{ US dollars}$$

400 U.S dollars.

(2mks)

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

(a) Write down the multiplication number shown on the abacus.

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

(b) Work out the multiplication and show the answer on the third abacus.

$103_{\text{five}} \times 12_{\text{five}} = 1241_{\text{five}}$

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

Let the percentage for sheep be p .

Sheep	goats	Total
p	$p+12\%$	100%

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

$2p = 88\%$
 $p = 44\%$

$(77 \div 44\%) \text{ animals}$

$(\frac{77 \times 25}{44}) \text{ animals}$

17.5 animals

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 the years to come be p

Irene	sarah	Time
10	30	now
$10+p$	$30+p$	p

$2(10+p) = (30+p)$
 $20 + 2p = 30 + p$
 $2p - p = 30 - 20$
 $p = 10 \text{ years}$

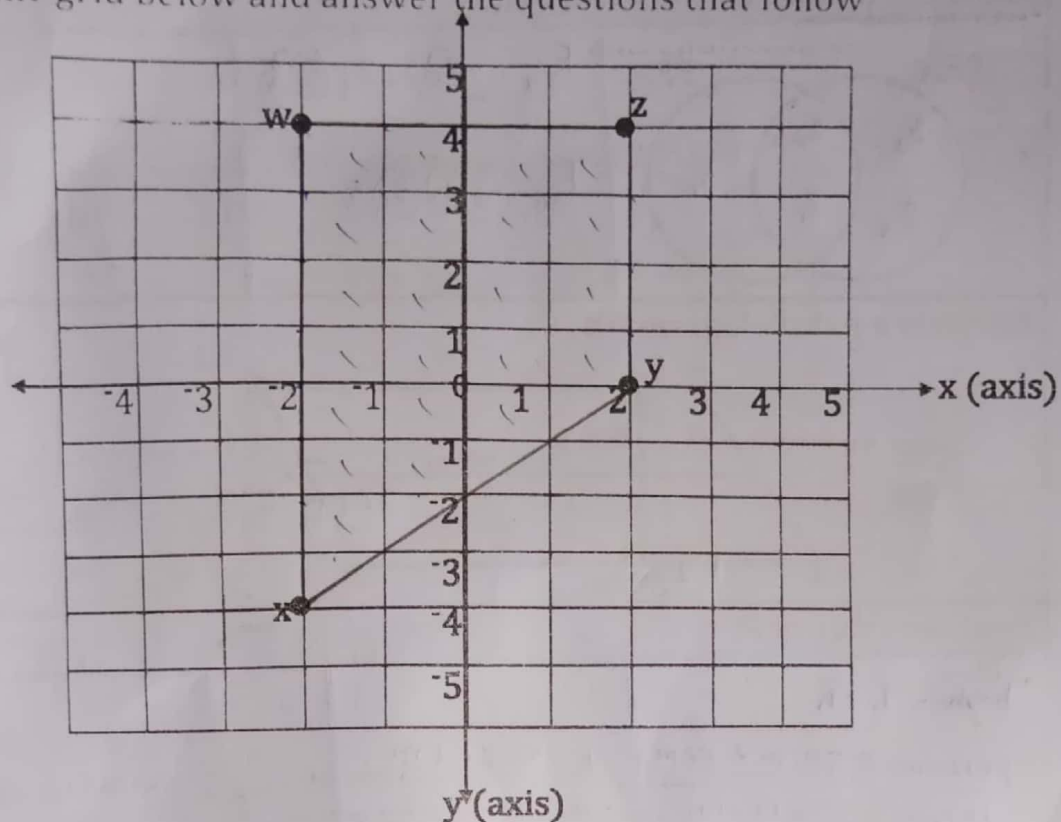
What will be their total age by then?

$(10+p) + (30+p)$
 $10 + 10 + 30 + 10$
 $(20 + 40) \text{ years}$

60 years

26

Study the grid below and answer the questions that follow



(a)

Name the point

(i) w $(-2, 4)$ (ii) y $(2, 0)$

(2mks)

(b)

Join the points to form a geometrical figure and work out its area if 1 square represents 1dm.

$$A = \frac{1}{2} \times h (a+b)$$

$$= \frac{1}{2} \times 4 \text{ dm} (4 \text{ dm} + 8 \text{ dm}) = 24 \text{ dm}^2$$

$$= 2 \text{ dm} \times 12 \text{ dm}$$

$$= 24 \text{ dm}^2$$

(3mks)

27.

(a)

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

(i) 24

$$\{2, 2, 2, 3\}$$

24

^

2 12

^

2 6

^

2 3

^

3 1

30

^

2 15

^

3 5

^

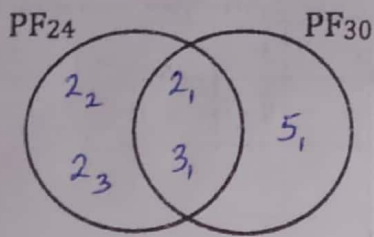
5 1

(ii) 30

$$\{2, 3, 5\}$$

(1mk each)

(b) Show the factors on the Venn diagram below.

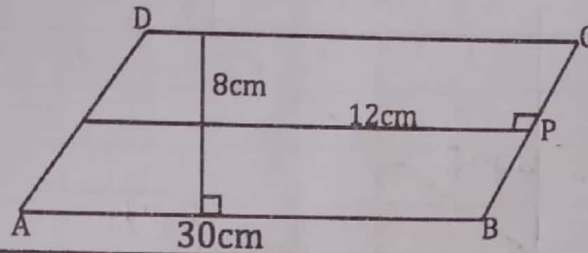


$$F_{24} = 2, 2, 2, 3, 3$$

$$F_{30} = 2, 3, 5$$

(3mks)

28. Below is a parallelogram ABCD.



(a) Find the value of P.

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

$$P \times 12 \text{ cm} = \frac{30 \text{ cm} \times 8 \text{ cm}}{12 \text{ cm}}$$

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

(3mks)

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

$$P = 2(b + w)$$

$$= 2(30 \text{ cm} + 20 \text{ cm})$$

$$= 2(50 \text{ cm})$$

$$= 100 \text{ cm}$$

Perimeter ABCD
100 cm

(2mks)

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

Let the correct answers given be y

correct	wrong	Total
y	$24 - y$	24

$$5(y) - 2(24 - y) = 43$$

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

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

$$7y = 91$$

$$y = 13$$

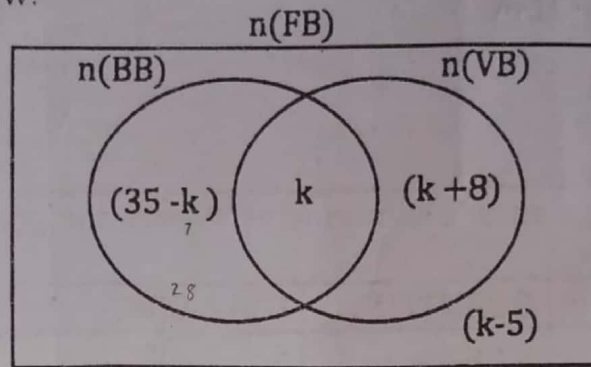
Wrong answers

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

11 wrong answers.

(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.



$$\begin{array}{r} 28 \\ 22 \\ \hline 52 \end{array}$$

- (a) If 17 players do not play basket ball, find the number of players who play all the three games.

$$\begin{aligned} k+8+k-5 &= 17 \\ k+k+8-5 &= 17 \\ 2k+3-3 &= 17-3 \\ \frac{2k}{2} &= \frac{14}{2} \\ k &= 7 \end{aligned}$$

7 players.

(3mks)

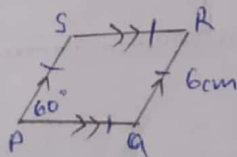
- (b) How many players are in the school team?

$$\begin{aligned} 35-k+k+k+8+k-5 \\ 35+k+8+k-5 \\ 35+8-5+2k \\ 35+3+2k \\ 38+2 \times 7 \\ 38+14 \\ 52 \text{ players} \end{aligned}$$

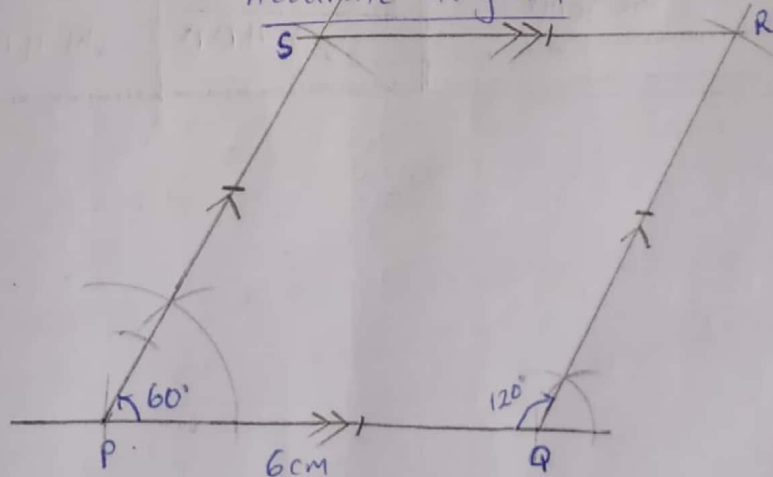
(2mks)

31. Using a ruler and a pair of compasses only, construct a rhombus PQRS in which $PQ = 6\text{cm}$ and angle $SPQ = 60^\circ$

Sketch



Accurate diagram



(4mks)

(b)	Measure diagonal SQ.
	$\overline{SQ} = 6.2\text{cm}$
	(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. <u>2400</u>
Salt	500gm	Shs. <u>3000</u>	Shs. 1500
Posho	<u>1½</u> kg	Shs. 3000	Shs. 4500
Soap	3 bars	Shs. <u>4000</u>	Shs. <u>12000</u>
TOTAL EXPENDITURE			Shs. 20,400

<u>Milk</u> $2 \times \text{Shs. } 1200$ $\text{Shs. } 2400$	<u>posho</u> $\text{Shs. } 3000$ $\times 1\frac{1}{2}$ $\text{Shs. } 4500$	<u>Soap</u> $\text{Shs. } 20400$ $- \text{Shs. } 8400$ $\text{Shs. } 12000$	
<u>Salt</u> $\text{Shs. } 1500 \div \frac{500\text{gm}}{1000\text{gm}}$ $\text{Shs. } 3000$	<u>Total</u> $\text{Shs. } 2400$ $\text{Shs. } 4500$ $+ \text{Shs. } 1500$ $\text{Shs. } 8400$	<u>unit cost</u> $\text{Shs. } 12000$ $\div 3$ $= \text{Shs. } 4000$	

(5mks)