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: 0756765866

Candidate's signature: .....

School Name: Johnson Salongo

District/Municipality: .....

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: WA.D.E.B

SECTION A (40 MARKS)

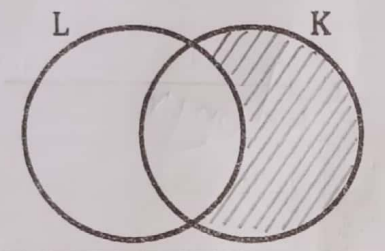
1. Work out: $12 \div 3$

$\frac{12}{3} = 4$

2. Express CXLV in Hindu Arabic numerals.

C → 100
XL → 40
V → + 5
145

3. In the diagram below, shade only the region that represents K.

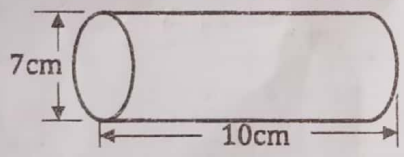


4. Write in figures: Two and two thousandths.

Two → 2
Two thousandths → 0.002

2.000
+0.002
2.002

5. Find the volume of the cylinder below. $\left(use: \pi = 3\frac{1}{7}\right)$



$V = \pi r^2 h$
$= \frac{22}{7} \times 7cm \times 7cm \times 10cm$
$= 11 \times 35cm^3$
$= 385cm^3$

6. Find the next two numbers in the sequence below.
22, 20, 17, 15, 12, 1, -12
-2 -3 -5 -7 -11 -13

1 - 13 = -12

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?

Decrease
shs. 3000
- shs. 2400
shs. 600

percentage decrease
$\left(\frac{shs.\ 600}{shs.\ 3000} \times \frac{2}{100}\right)\%$

$= 20\%$

8. Workout: $2121 \div 7$

$\frac{2121}{7} = 303$

303

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

Total teachers

11 + 7 = 18 teachers

probability = $\frac{7}{18}$

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

$4(5p-8) = 48$

$20p - 32 = 48$

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

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

$p = 4$

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)

Hours	minutes
16	45
-2	15
14	30
-12	00
2	30

2:30pm

12. Write 0.049 in standard form.

0.049

0.049×10

0.49×10

4.9

4.9×10^{-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?

Interest = P × R × T

= shs. $\frac{161000 \times 9}{100} \times \frac{4}{7}$

shs. 8280

= shs. 8280

36 × 23 = 108 + 720 = 828

14. The exterior angle of a polygon is 72^0, name the polygon.

Number of sides $= \frac{360^1}{72^1_1}$

$= 5$ sides

Regular pentagon

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

$\frac{(7p-4)+19+2p}{3}$

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

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

$3p+5$

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

Proper subsets $= 2^n - 1$

$2^n - 1 = 63$

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

$2^n = 64$

$2^n = 2^6$

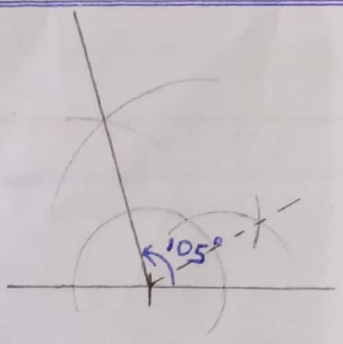
$n = 6$

$n(K) = 6$

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

$= 2^6$

17. Using a sharp pencil, a pair of compasses only, construct an angle of 105^0 in the space provided below.



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

4, 6, 8, 9, (10), 12, 14, (15), 16, 18, 20, 21

$10 \times 15 = 150$

$= 150$

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

July stands for 7

$7 - 114 = -(\text{finite } 12)$

Express 114 in finite 12

$\frac{114}{12} = 9$ rem 2

$\left(\frac{2}{4} \times \frac{3}{12}\right)$ months

$= 6$

$7 - 6 = -(\text{mod } 12)$

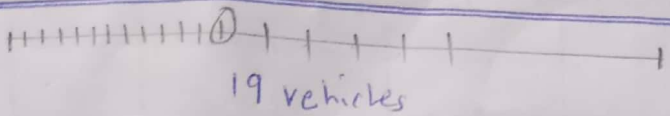
$= 1 (\text{mod } 12)$

The month was January

12 × 9 = 108

114 − 108 = 6

20. 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?



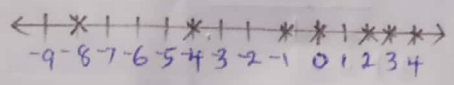
or
$(13+7)-1$
$20-1$

= 19 vehicles

SECTION B (60 MARKS)

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

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

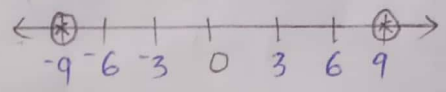


$+4, +3, +2, 0, -1, -4, -8$

(2mks)

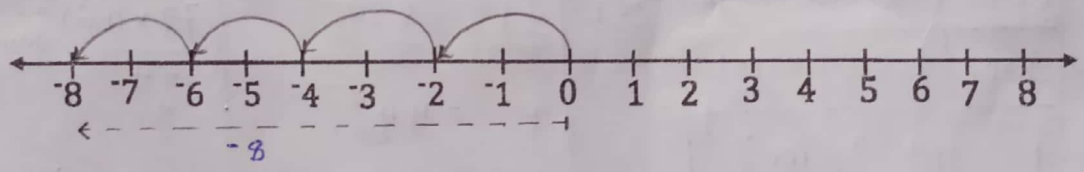
(b) Use >, < or = to complete the statement below correctly.

$-9 \quad \angle \quad +9$



(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

35
×28
280
+700
980

kenya

2 42
148
×35
1740
+4440
5180

ug·shs 98000
ug·shs 5180
ug·shs 103180

(3mks)

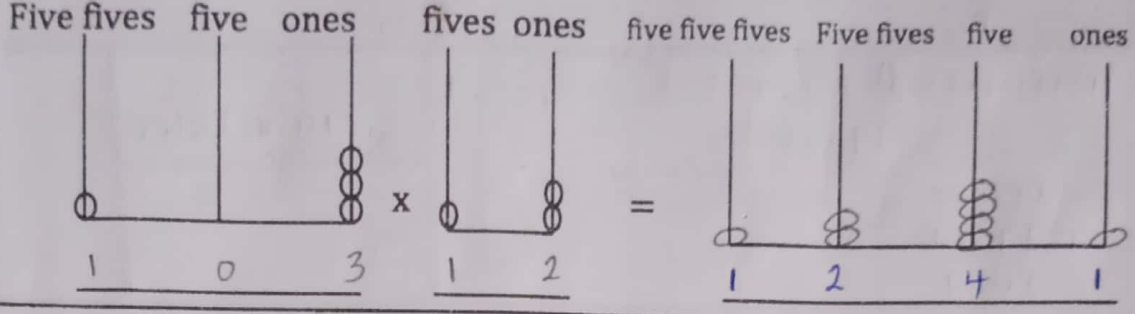
(b) If a shirt costs Ksh. 40,000, what is the cost of the shirt in US dollars?

$40,000 \div 35^{1}00$ 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



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

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

(2mks)

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

$10^{1}3_{five}$
$\times 12_{five}$
211
+103
1241_{five}

$\frac{6}{5} = 1$ rem 1

(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?

Let the percentage for sheep be P.

Sheep	goats	Total
P	P+12%	100%

P + P + 12% = 100%

2P + 12% − 12% = 100% − 12%

$\frac{2}{2}P = \frac{88\%}{2}$

P = 44%

(77 ÷ 44%) animals

$\left(\frac{77}{44} \times \frac{25}{100}\right)$ animals

175 animals

(5mks)

25 (a) Irene is 10 years old, Sarah is 30 years old.
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 years

After 10 years

(3mks)

What will be their total age by then?

(10+P) + (30+P)

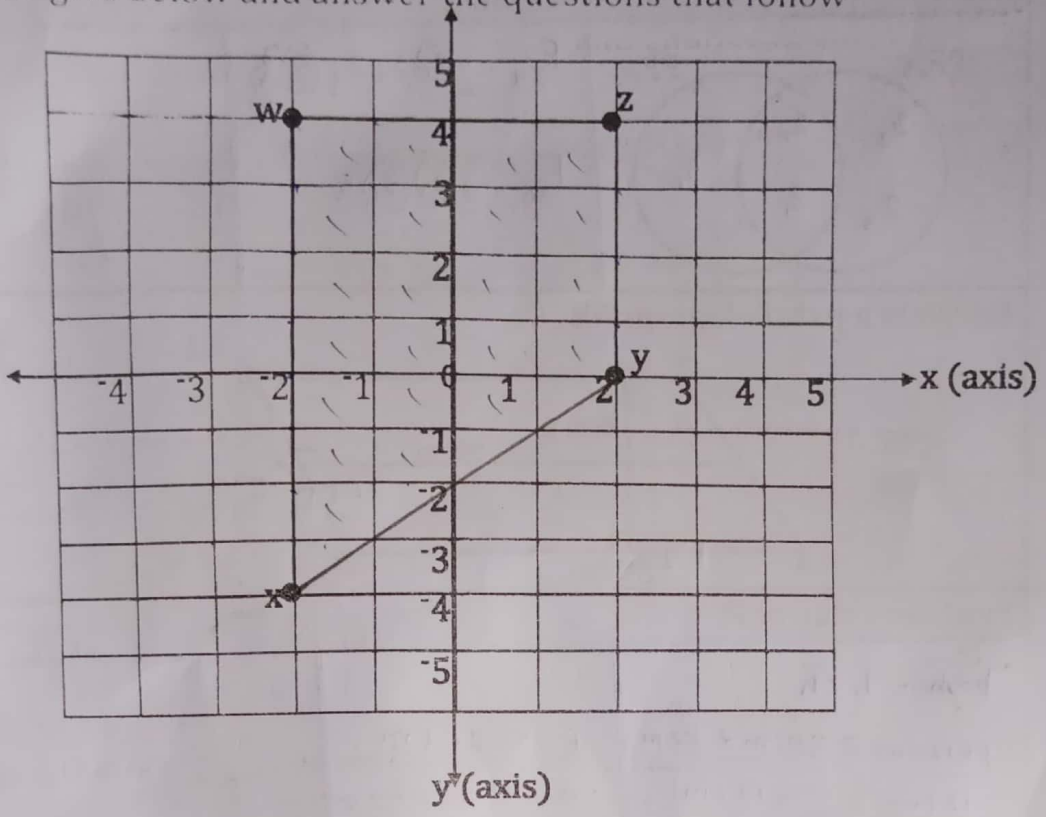
10 + 10 + 30 + 10

(20 + 40) years

60 years

(2mks)

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 workout its area if 1 square represents 1dm.

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

$= \frac{1}{2} \times 4\,dm(4\,dm + 8\,dm)$

$= 2\,dm \times 12\,dm$

$= 24\,dm^2$

$= 24\,dm^2$

(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

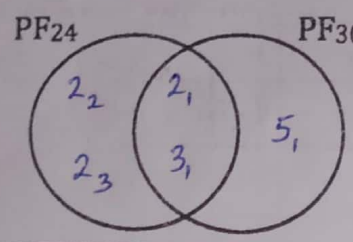
(ii) 30

$\{2, 3, 5\}$

30 → 2 × 15 → 3 × 5 → 5 × 1

(1mk each)

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

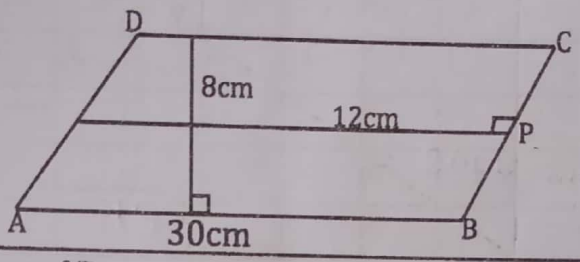


$F_{24} = \{1, 2, 2, 2, 3, 4\}$

$F_{30} = \{1, 2, 3, 5\}$

(3mks)

28. Below is a parallelogram ABCD.



(a) Find the value of P.

$b \times h = b \times h$

$\frac{P \times 12cm}{12cm} = \frac{30cm \times 8cm}{x + 7cm}$

$P = 20cm$

$P = 20cm$

(3mks)

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

$P = 2(b + w)$

$= 2(30cm + 20cm)$

$= 2(50cm$

$= 100cm$

Perimeter ABCD

100 cm

(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 the correct answers given be y

correct	wrong	Total
y	24-y	24

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

$5y - 48 + 2y = 43$

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

$\frac{7y}{7} = \frac{91}{7}$

$y = 13$

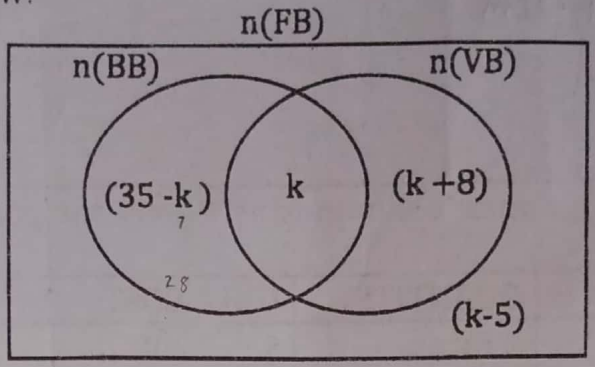
Wrong answers

$24 - 13 = 11$

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.



28
22
2
52

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

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

7 players.

(3mks)

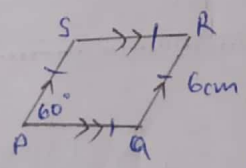
(b) How many players are in the school team?

$35-k+k+k+8+k-5$
$35+k+8+k-5$
$35+8-5+2k$
$35+3+2k$ (k = 7)
$38+2\times7$
$38+14$
52 players

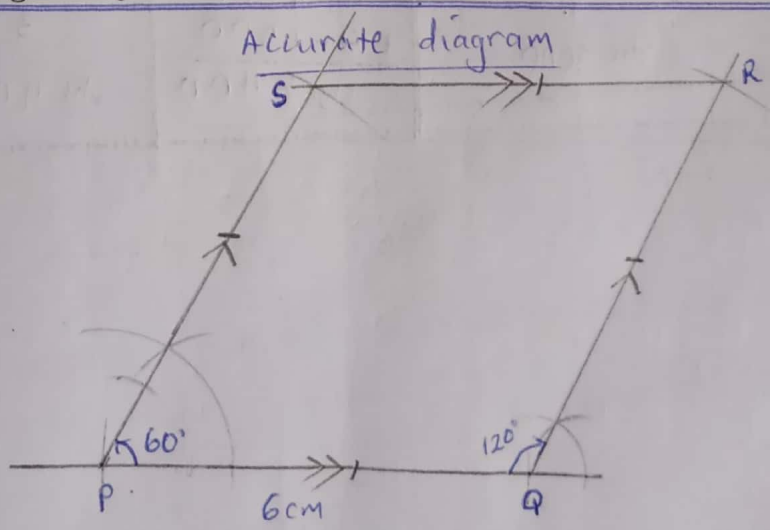
(2mks)

31. Using a ruler and a pair of compasses only, construct a rhombus PQRS in which $\overline{PQ}$= 6cm and angle SPQ= 60^0

Sketch



Accurate diagram



(4mks)

(b) Measure diagonal SQ.

$\overline{SQ} = 6.2cm$

(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. 2400
Salt	500gm	Shs. 3000	Shs. 1500
Posho	1½ kg	Shs. 3000	Shs. 4500
Soap	3 bars	Shs. 4000	Shs. 12000
TOTAL EXPENDITURE			Shs. 20,400

Milk

2 × shs 1200

shs 2400

Salt

shs 1500 ÷ 500 gm / 1000 gm

shs $\frac{3}{1500} \times \frac{1000}{500}$

shs 3000

posho

3

shs 4500

shs 3000

2

1½ kg.

Total

she 2400

shs 4500

+ shs 1500

shs 8400

Soap

shs 20400

- shs 8400

shs 12000

unit cost

$\frac{\text{shs } 12000}{3}$

= shs 4000

(5mks)