KAMWENGE CATHOLIC DEANARY EXAMINATION BOARD

PRE - MOCK EXAMINATION 2024

P.7 MATHEMATICS

Time Allowed : 2 hours 30 minutes

Random No.						Personal No.		

CANDIDATE'S NAME: By TR: SILAS (KEPLER)

CANDIDATE'S SIGNATURE: .....

SCHOOL NAME: .....

SUB - COUNTY: .....

CATHOLIC PARISH: .....

DO NOT OPEN THIS PAPER UNTIL YOU ARE TOLD TO DO SO.

1. The paper is made up of two sections A and B.
   Section A has 20 short answer questions (40 marks).
   Section B has 12 questions (60 marks).
2. Answer all questions. All working and answers for both sections A and B must be shown in the spaces provided.
3. 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.
4. No calculators are allowed in the examination room.
5. Unnecessary changes in your work and handwriting that can not be read easily may lead to loss of marks.
6. Do not fill anything in the table indicated: "**FOR EXAMINERS' USE ONLY**" and boxes inside the question paper.

FOR OFFICIAL USE ONLY		
Qn. No.	**MARKS**	**EXR'S NAME**
1 - 7		
8 - 14		
15 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

SECTION A

1. Add: 64 + 13.

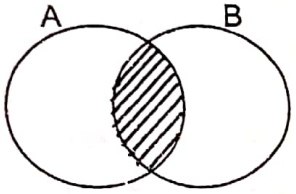
$$\begin{array}{r} 64 \\ +\,13 \\ \hline 77 \end{array}$$

2. Write "Twelve thousand twelve" in figures.

Twelve Thousand = 12,000
Twelve = + 12
12012

∴ "Twelve Thousand twelve" = 12012

3. Sescribe the unshaded region.



A ∪ B − A ∩ B

4. Simplify: −9 − −3

$$-9-(-3)$$
$$-9+3$$
$$-6$$

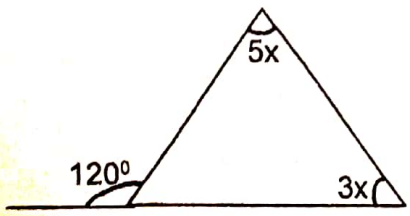
5. Find the next number in the sequence.

73, 71, 68, 63, 56, 45

−2, −3, −5, −7, −11

(Prime numbers) 56 − 11 = 45

6. In the figure below, find the value of x.



$5x + 3x = 120°$
$8x = 120°$
$\frac{8x}{8} = \frac{120°}{8}$
$x = 15°$

7. Liallian deposited sh. 100,000 in a bank which offers an interest of $7\frac{1}{2}\%$ per month for only one year. How much interest did the money yield?

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

sh. $100{,}000 \times \frac{7\frac{1}{2}}{100} \times 12$

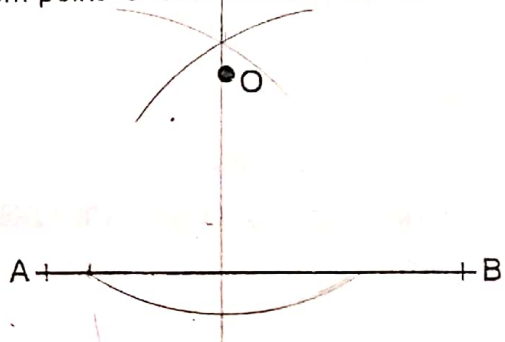
sh $100{,}000 \times \frac{15}{2} \times \frac{1}{100} \times \frac{6}{12}$

sh. $1000 \times 15 \times 6$

sh. 1000×90

sh. 90000

8. Use a ruler, a pencil and a pair of compasses only, drop a perpendicular line from point **O** to meet line **AB** at **N**.



9. Ritah had a bundle of five thousand shilling notes numbered consecutively from CH 2 6 3 2 6 5 6 to CH 2 6 3 2 7 5 5. How much money did she have altogether?

CH 2632755
− CH 2632656
99

100 notes.
sh. 5000×100
sh. 501,000

10. Given that a = 3, b = a and c = b + 4, find the value of ab + c.

Value of C = 3 + 4 = 7

$(a \times b) + c$
$(3 \times 3) + 7$
$9 + 7$
16

1. The base area of a rectangular tank is 40 square centimetres, find its volume of its height is 50 cm.

Volume = base area x height

$40cm^2 \times 50cm$

$2000\ cm^3$

12. The mean of k, 3, 5 and 2 is 3. Find the value of k.

Mean = Sum of data / number of data

$\frac{k+3+5+2}{4} = 3$

$\frac{4}{1} \times \frac{k+10}{4} = 3 \times 4$

$k+10 = 12$

$k+10-10 = 12-10$

$k = 2$

13. What number has been expressed in standard form.

2.024×10^3 ?

$\frac{2024}{1000} \times 1000$

2024×1

2024

14. Kaggwa is 7 years older than Mpumwire In 10 years time, their total age will be 75 years. How old will Kaggwa be in 10 years to come?

Let Mpumwire's age be K

Now	K+7	K	
10 yrs to come	K+7+10	K+10	75
	Kaggwa	Mpumwire	total

$K+7+10+K+10 = 75$

$K+K+17+10 = 75$

$2K+27 = 75$

$2K+27-27 = 75-27$

$\frac{2K}{2} = \frac{48}{2}$

$K = 24$

$2(24)+17$

41 years

15. A teacher's salary of sh. 320,000 was increased by 10%. Calculate the new teacher's salary.

(100% + 10%) of Sh. 320,000

$\frac{110}{100} \times$ Sh. 320,000

$110 \times$ Sh. 3200

Sh. 352000

16. Maria driving at 80km/hr took 48 minutes from Kahunge to Ibanda. Find the distance she covered.

$D = S \times T$

$S = 80km$

$T = \frac{48}{60}$ hours

$D = \frac{80km}{1h} \times \frac{48}{60}h$

$D = 8km \times 8$

64km

17. A workshop started on Wednesday and took 27 days. Find the day of the week on which the workshop ended?

(day + date) - 1 = - (Chinile 7)

(3 + 27) - 1 = - (Chinile 7)

$29 \div 7 = 4$ rem 1 (Chinile 7)

1 represents Monday

∴ It ended on Monday.

18. Write the morning time shown on the clock face below in 24 hour clock.

8 : 20 a.m

+ 00 00 hours

08 20 hours

19. The value of a certain digit h in $3h1_{five}$ is 10. Find the value of h.

Value of h.

$h \times 5 = 10$

$5h = 10$

$\frac{5h}{5} = \frac{10}{5}$

$h = 2$

∴ h = 2.

20. Find the least number of sweets that can be shared by 6 or 8 boys leaving a remainder of 3 sweets.

3 (Chinile 6) = {3, 9, 15, 21, (27), 33 ---}.

3 (Chinile 8) = {3, 11, 19, (27), 35 ---}.

∴ 27 Sweets

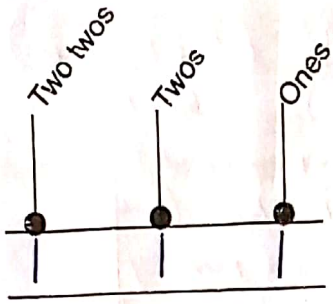
SECTION B

21(a) Work out: (2 mks)

$$\begin{array}{r} 1\ 1\ 1_{two} \\ \times\ 1\ 1_{two} \\ \hline 1\ 1\ 1_{two} \\ +1\ 1\ 1_{two} \\ \hline 1\ 0\ 1\ 0\ 1_{two} \end{array}$$

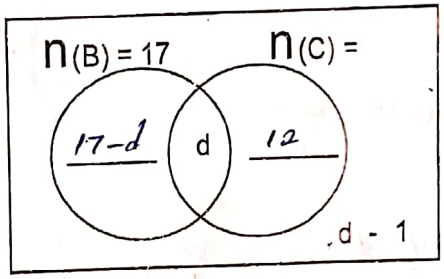
$2 \div 2 = 1$ rem 0
$3 \div 2 = 1$ rem 1
$2 \div 2 = 1$ rem 0

(b) Express the number shown on the abacus in base ten. (3 mks)



$(1 \times 2 \times 2) + (1 \times 2) + (1 \times 1)$
$4 + 2 + 1$
7_{ten}

22. The Venn diagram below shows the number of guests who eat beef (B) and chicken (C).
12 guests eat chicken only, 17 guests eat beef and (d - 1) eat neither of the two.
(a) Use the information above to complete tghe venn diagram below. (1 mk @)



(b) If the guests who eat beef only is the same as those who eat chicken only, find the value of d. (2 mks)

Value of d
$17 - d + d + 12 =$
$17 - d = 12$
$17 - 17 - d = 12 - 17$
$-d = -5$

$\frac{-d}{-1} = \frac{-5}{-1}$
$d = 5$

(c) Find the probability of selecting a guest at random who does not eat chicken? (2 mks)

$E = 17 - 5 + 5 + 12 + 4$
$12 + 5 + 16$
$17 + 16$
33 pupils

Desired chances
$17 - d + d - 1$
$17 - 5 + 5 - 1$
$12 + 4$
16 pupils

Probability = $\frac{\text{Desired chances}}{\text{Total chances}}$

$\frac{16}{33}$

The table below shows Musa's shopping bill.

ITEM	QUANTITY	UNICOST	TOTAL COST
Sugar	3 kgs	sh. 5,200	sh. 15600
Rice	$2\frac{1}{2}$ kg	sh. 4800	sh. 12,000
Salt	$\frac{3}{4}$ kg	sh. 2,800	sh. 2,100
Wheat flour	$\frac{1}{2}$ kg	sh. 6600	sh. 3300
Total expenditure			**sh. 33,000**

Complete the table above. (1 mk @)

Total Cost
Sh. 15,600
Sh. 12,000
Sh. 2,100
Sh. 29,700

Sugar = Sh. 5200 × 3
Sh. 15600

Rice = Sh. 12000 ÷ $2\frac{1}{2}$
Sh. 12000 ÷ $\frac{5}{2}$
Sh. 2400 × $\frac{2}{5}$
Sh. 4800

Wheat Flour
Total cost: Sh. 33,000
Sh. 29,700
Sh. 3300

Wheat Flour
Unit Cost = Sh. 3300 ÷ $\frac{1}{2}$
Sh. 3300 × $\frac{2}{1}$
Sh. 6600

Salt
Sh. $\frac{3}{4}$ × 2800
Sh. $\frac{2800}{4}$
$\frac{3}{4}$ kg

24(a) Find the multiplicative inverse of $\frac{3}{4}$ (2 mks)

Let the inverse be h

$\frac{3}{4}$ of h = 1
$\frac{3}{4} \times h = 1$
$\frac{3h}{4} = 1 \times 4$
$\frac{3h}{3} = \frac{4}{3}$
$h = \frac{4}{3}$

(b) Simplify: $\frac{0.24}{0.08 \times 0.6}$ (3 mks)

$\frac{0.4}{100} \div \left(\frac{8}{100} \times \frac{6}{10}\right)$
$\frac{4}{100} \times \frac{100}{8} \times \frac{10}{6}$
$\frac{4 \times 10}{8}$
$\frac{40}{8} = 5$
$\therefore \frac{0.24}{0.08 \times 0.6} = 5$

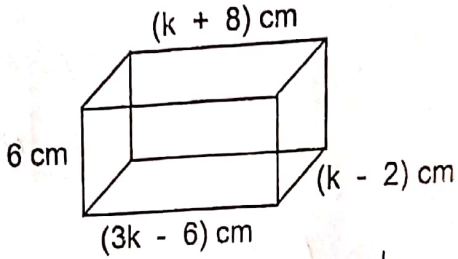
25. The sum of three consecutive even numbers is 18. If the middle number is y, find the range of numbers. (4 mks)

1st	2nd	3rd	Total
y − 2	y	y + 2	18

y − 2 + y + y + 2 = 18
y + y + y − 2 + 2 = 18
3y = 18
$\frac{3y}{3} = \frac{18}{3}$
y = 6

1st = 6 − 2 = 4
2nd = 6
3rd = 4 + 2 = 8
Range = 11 − 4
8 − 4 = 4

26. The figure below is a cuboid. Use it to answer questions that follow.



(a) Find the value of k. (2 mks)

$3k - 6 = k + 8$

$3k - k = 8 + 6$

$2k = 14$

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

$k = 7$

Length $(7+8)$ cm $= 15$ cm

Width $(7-2)$ cm $= 5$ cm

(b) Calculate its volume. (4 mks)

Volume $= L \times W \times H$

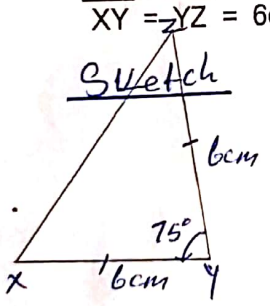
$15\text{cm} \times 5\text{cm} \times 6\text{cm}$

$75\text{cm}^2 \times 6\text{cm}$

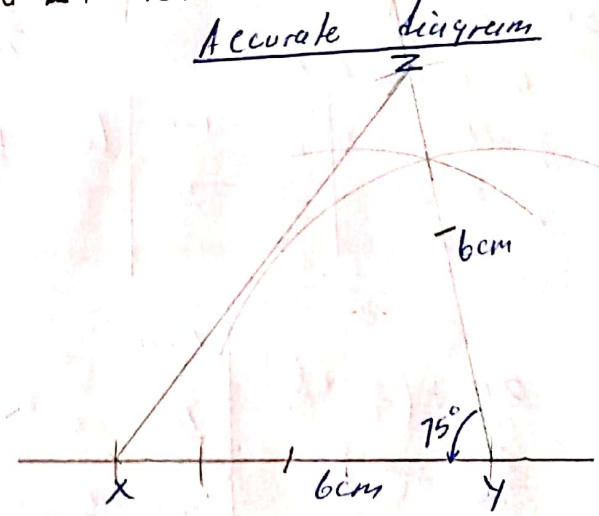
450cm^3

27(a) Using a ruler, a pencil and a pair of compasses only. Construct triangle XYZ where $\overline{XY} = \overline{YZ} = 6$cm and $\angle Y = 75^0$. (4 mks)

Sketch



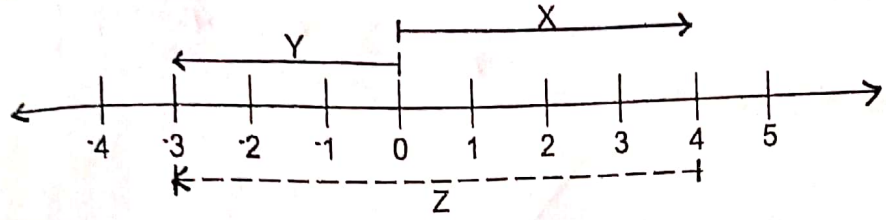
Accurate diagram



(b) Measure line $\overline{XZ}$. (1 mk)

7.3 cm

the nimberline below and use it to answer the wuestions that follow.



(i) Find the value of; (1 mk @)

X = $^{+}4$ Y = $^{-}3$ Z = $^{-}7$

(ii) Write the mathematical statement represented above. (2 mks)

$Y - X = Z$

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

29. The table below shows marks scored by different pupils in a P.7 entry interview.

Marks scored	40	80	60	90
Number of pupils	3	2	4	1

(a) How many pupils did the interview? (1 mk)

$(3+2+4+1)$ pupils

$5+5$

10 pupils

(b) Calculate the average mark. (3 mks)

Average = $\frac{\text{Sum of data}}{\text{number of data}}$

$\frac{(40\times3)+(80\times2)+(60\times4)+(90\times1)}{10}$

$\frac{120+160+240+90}{10}$

$\frac{610}{10}$

61

∴ Average = 61.

(c) If the average mark was the passmark, how many pupils passed the interview? (1 mk)

80 — 2

90 — 1

2+1

3 pupils

30. In a test of 20 questions, a teacher awarded 5 marks for every correct answer and deducted 2 marks for every wrong answer. A candidate got 65 marks. How many correct questions did he get? (3 mks)

Let the Correct questions be m.

Correct	wrong	Total marks
m	20−m	65

$5\times m - 2(20-m) = 65$

$5m - 40 + 2m = 65$

$5m + 2m - 40 = 65$

$7m - 40 + 40 = 65 + 40$

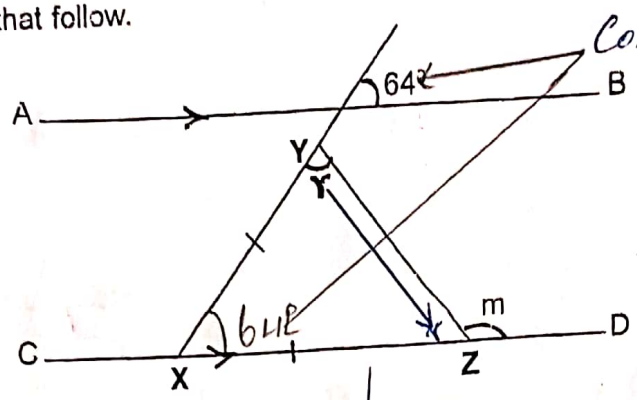
$7m = 105$

$\frac{7m}{7} = \frac{105}{7}$

$m = 15$

∴ He got 15 Correct questions

31. In the figure below AB is parallel to CD and XY = XZ. Study it and answer the questions that follow.



Corresponding angles

(a) Find the value of angle r. (3 mks)

$r + r + 64° = 180°$

$2r + 64° - 64° = 180° - 64°$

$2r = 116°$ (58°)

$\frac{2r}{2} = \frac{116°}{2}$ (71)

$r = 58°$

(b) What is the size of angle YZD ? (2 mks)

$r + m = 180°$ (Supplementary angles).

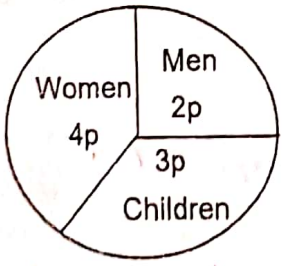
$58° + m = 180°$

$58° - 58° + m = 180° - 58°$

$m = 122°$

$\therefore \angle YZD = 122°$

32. The circle graph below shows the population of a village in Kamwenge district. Use it to answer the questions that follow.



(a) Find the value of p in degrees. (2 mks)

$4p + 3p + 2p = 360°$

$9p = 360°$

$\frac{9p}{9} = \frac{360°}{9}$ (40, 71)

$p = 40°$

(b) If there are 720 children in that village, calculate the total population of the village. (3 mks)

Children $= 3 \times 40°$

$120°$

Total Population

$720 \div \frac{120°}{360°}$ (3)

$720 \div \frac{120°}{360°}$

$720 \times \frac{3 \times 360°}{120°}$ (1)

720×3

2160 people

(c) Express the number of women as a ratio of children in that village. (1 mk)

Women $= \frac{4 \times 40°}{360°} \times \frac{24}{240°}$ (12, 71)

40×24

960 women.

$\frac{960}{720} = \frac{8}{6} = \frac{4}{3}$ (8, 6)

4 : 3

END