THE SIPRO P.7 MOCK 2024

MATHEMATICS

Time Allowed: *2 Hours 30 Minutes*

	Random No.						Personal No.		
Index No.									

Candidate's Name: _____

Candidate's Signature: _____

School Random No: _____

District ID: _____

TR. PADDY COSTANT 0706207195/0757185078 (calling). (whatsapp) At Victor Junior School - Mende Makiso - District.

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. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or ***ink***. Only diagrams and graph work must be done in ***pencil***.
6. Unnecessary ***alteration/crossing*** of work will lead to loss of marks.
7. Any ***handwriting*** that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the boxes indicated:

"FOR EXAMINER'S USE ONLY"

For Examiner's Use Only;

Qn No.	MARKS	INITIALS
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
Total		

Please turn over

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SECTION A: 40 MARKS

Attempt **all** *questions in this section.*
Questions **1** *to* **20** *carry* **two** *marks each*

2x4 = 8
2x2 = 4
1x1 = 2

1. **Work out:** 1 2 4
   x 2
   248

2. **Simplify:** 4k - m + 5k + 3m.

   = (4k + 5k) + (3m - m)
   = 9k + 2k.

3. Write "Four thousand, four hundred forty-four in **figures**.

   Four thousand = 4,000.
   Four hundred forty fortyfour = + 444
   4,444

4. A block weighs **630gm**. Express the mass of the block in kilogrammes.

   1000gm = 1kg.
   630gm = (630/1000) kg
   = 0.63kg

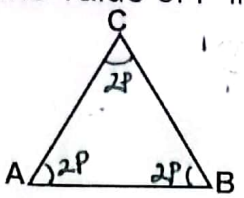
5. If set R = {1, ② 3, ④ 5} and T = {②, ④ 6. 7}. Find the **number** of **subsets** in R ∩ T.

   R ∩ T = {2, 4}.
   C = 2^n
   = 2x2
   = 4subsets.

6. Given that 2t + 4 = 10, find the value of 2t.

   2t + 4 - 4 = 10 - 4.
   2t = 6

7. The diagram below shows a triangle **ABC** in which ∠ABC = ∠BAC = ∠ACB = 2P. Find the value of P in degrees.



$2P + 2P + 2P = 180^\circ$

$\frac{6P}{6} = \frac{180^{30}}{6}$

$P = 30^\circ$

8. Find the next number in the sequence.

2, 4, 12, 24, ___72___

×2 ×3 ×2 ×3

$24 \times 3 = 72$

9. Find the supplementary angle of $(75 - 3t)^0$

let P rep. the supplementary angle.

$P + (75 - 3t)^\circ = 180^\circ$

$P + (75 - 3t)^\circ - (75 - 3t)^\circ = 180^\circ - (75 - 3t)^\circ$

$P = 180^\circ - 75^\circ + 3t^\circ$

$P = (105 + 3t)^\circ$

10. A flight that took $1\frac{1}{2}$ hours ended at 1:00pm. At what **time** did the flight start?

S.T = E.T − Duration

1300 hours − 1 hour 30 minutes

1300 hours − 130

11:30am.

$1\frac{1}{2}$ hour = 1:30

60 − 30 = 30

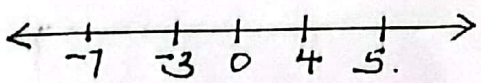
12 − 1 = 11

1:00pm + 1 hour 30 minutes

1200 hours + 100 + 30

1300 hours

11. Find the **range** of -3, 5, 0, -7, 4



Range = H − L

$= 5 - (-7)$

$= 5 + 7$

$= 12$

− × − = +

12. Round off **4352** to the nearest hundreds.

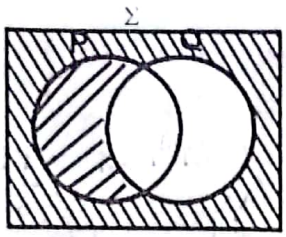
4352

RPV

4300 + 100

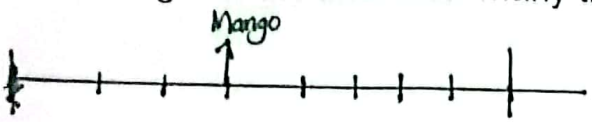
4400

13. Describe the shaded region in the venn diagram below.



Q'

14. In a line of trees, the mango is the fourth from the left and the 6th from the right of the line. How many trees are in the line altogether?



= 9 trees

Alternatively

$= (6 + 4) - 1$

$= 10 - 1$

= 9 trees

15. **Increase** 70 bags of sugar in the ratio of $\frac{3}{4} : \frac{1}{2}$

$\left(\frac{3}{4} \div \frac{1}{2}\right) \times 70$ bags

$\frac{3}{4} \times \frac{2}{1} \times 70$ bags

$= 3 \times 35$ bags

= 105 bags

16. Sanyu bought 5 heaps of oranges at **sh. 6,000**. How many heaps would she buy with sh. 8,400?

5 heaps cost sh 6,000

1 heap costs $\frac{\text{sh } 6,000}{5}$ = sh 1,200

No of heaps = $\frac{\text{sh } 8,400}{\text{sh } 1,200}$

= 7 heaps

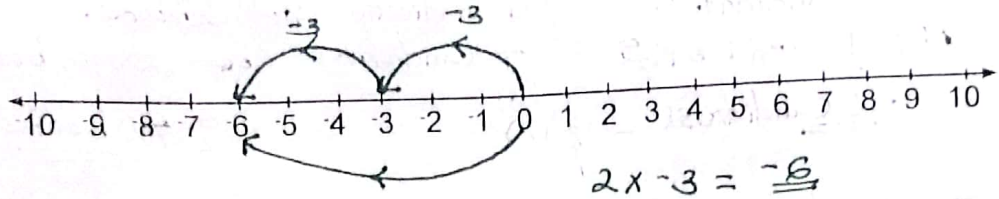
17. The probability that John passes the exam is 0.7. Find the probability that he fails the exams.

$Pb = \frac{10}{10} - \frac{7}{10} = \frac{10-7}{10}$

$= \frac{3}{10}$

= 0.3

18. Using the number line below, work out 2 x -3



$2 \times -3 = -6$

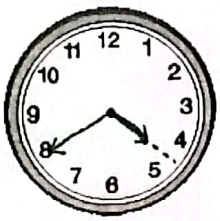
19. Express **0.666** ..... as a common fraction in its simplest form.

$= \frac{6-0}{10-1}$

$= \frac{6^{2}}{9_{3}}$

$= \frac{2}{3}$

20. On the clock face below, show 20 minutes to 5 o'clock.



$\overset{4}{5}:\overset{60}{00}$

$- \ 20$

$4:40$

$60-20 = 40$

SECTION B: 60 MARKS

Attempt **all** *questions in this section.*

Marks for **each part** *of the question are* **indicated** *in the brackets.*

21. **The table below shows how the P.7 candidates of Premier Junior School - Namugo scored in a Friday mental exercise.** *Study and use it to answer the questions that follow.*

Marks scored	Number of pupils	Total marks
3	4	12
5	9	45
6	14	84
8	8	64
15	5	75

a) **Complete** the table above. (04 mark

$\frac{\overset{5}{45}}{9_{1}} = 5$

$\frac{84}{6_{1}}^{14} = 14$

$8 \times 8 = 64$

$\frac{75}{8_{1}}^{15} = 15$

b) If each of the above candidates was given **two** books, how many books did they get altogether? *(02 marks)*

Total candidates.
= 4 + 9 + 14 + 8 + 5
= 40 candidates

1 candidate got 2 books.
40 candidates got (2 × 40) books
= 80 books

22. Given that **2y = 4x + 2**, complete the table below. *(04 marks)*

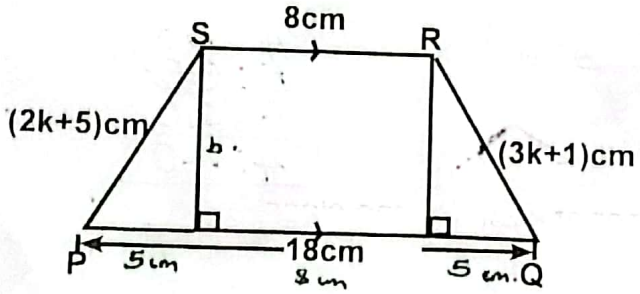
X	0	1	-2	-2
Y	1	3	-3	-3

$\frac{2y}{2} = \frac{4x+2}{2}$ | $y = 2x+1$ | $y = 2x0+1$, $y = 1$ | $y = 2x+1$, $3 = 2x$ | $y = 2x-2+1$, $y = -3$

$\frac{2}{2} = \frac{2x}{2}$, $1 = x$

$y = 2x+1$
$-3 = 2x+1$
$-3-1 = 2x$
$\frac{-4}{2} = \frac{2x}{2}$
$-2 = x$

23. **The figure below shows an isosceles trapezoidal cardboard.**
Use it to answer the questions that follow.



a) Find the value of **k**. *(02 marks)*

(2k+5) cm = (3k+1) cm
2k + 5 = 3k + 1
5 − 1 = 3k − 2k

4 = k
k = 4

b) Calculate the **perimeter** of the above figure. *(02 marks)*

P = Sum of all sides.
= 13cm + 18cm + 13cm + 8cm
= 52cm.

S.w
(2k+5) cm
(2×4+5) cm
(8+5) cm
= 13cm

(3k+1) cm
= (3k+1) cm
(3×4+1) cm
(12+1) cm
13cm

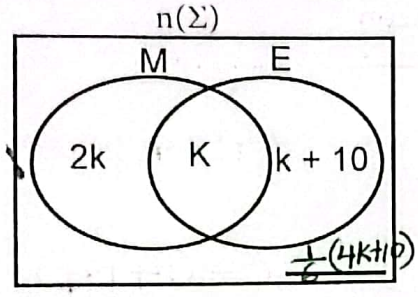
c) Work out the **height** of the cardboard. *(02 marks)*

$q^2 + b^2 = c^2$
$5^2 + b^2 = 13^2$
$25 \times 5 + b^2 = 13 \times 13$

$25 - 25 + b^2 = 169 - 25$
$\sqrt{b^2} = \sqrt{144}$
$\sqrt{b \times b} = \sqrt{12 \times 12}$
$b = 12$cm

24. The venn diagram below shows the number of pupils who like Mathematics (**M**) and English (**E**) in a P.7 class at King's Newton School - Wakiso. The number of pupils who like English only is the same as that of those who like Mathematics. The number of pupils who like other subjects is $\frac{1}{6}$ of those in the union of the two sets.

a) Complete the venn diagram below. *(01 mark)*



$n(E)only = n(M)$.

$n(MUE)' = \frac{1}{6}(MUE)$.

$2K+K+K+10$.

$(4K+10)$

$n(MUE)' = \frac{1}{6}(4K+10)$

b) Find the total number of pupils in the class. *(04 marks)*

$n(E)only = n(M)$

$K+10 = 2K+K$.

$10 = 3K-K$.

$\frac{10}{2} = \frac{2K}{2}$

$K = 5$.

$n(E) = 2K+K+K+10+\frac{1}{6}(4K+10)$.

$= 2\times5 + 5 + 5 + 10 + \frac{1}{6}(4\times5+10)$.

$30 + \frac{1}{6}\times30$.

$= 35$ pupils.

25. There are 960 females in a certain village 40% of the people in the village are males. If each person in the village received 200 coffee seedlings, how many seedlings were supplied to the village altogether? *(05 marks)*

%age of female

$100\% - 40\% = 60\%$.

$60\% \longrightarrow 960$ females

$1\% \longrightarrow \frac{960}{60}$

$1\% \longrightarrow 16$ females

$100\% \longrightarrow (16\times100)$ people.

$100\% \longrightarrow 1600$ people

1 person received 200 Coffee seedlings

1600 people received (200×1600) coffee seedlings

1600 people received 320000 Coffee seedlings

26. **The sum of the values in the table below is the same vertically, horizontally and diagonally**. *Study and use it to answer the questions that follow.*

16	2	12
6	10	14
8	18	4

sum

a) Find the magic sum. *(01 mark)*

16 + 10 + 4

= 30

b) Fill in the missing values. *(03 marks)*

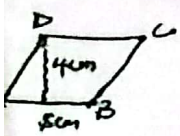
30 − (16 + 8) = 30 − 24 = 6

30 − (2 + 10) = 30 − 12 = 18

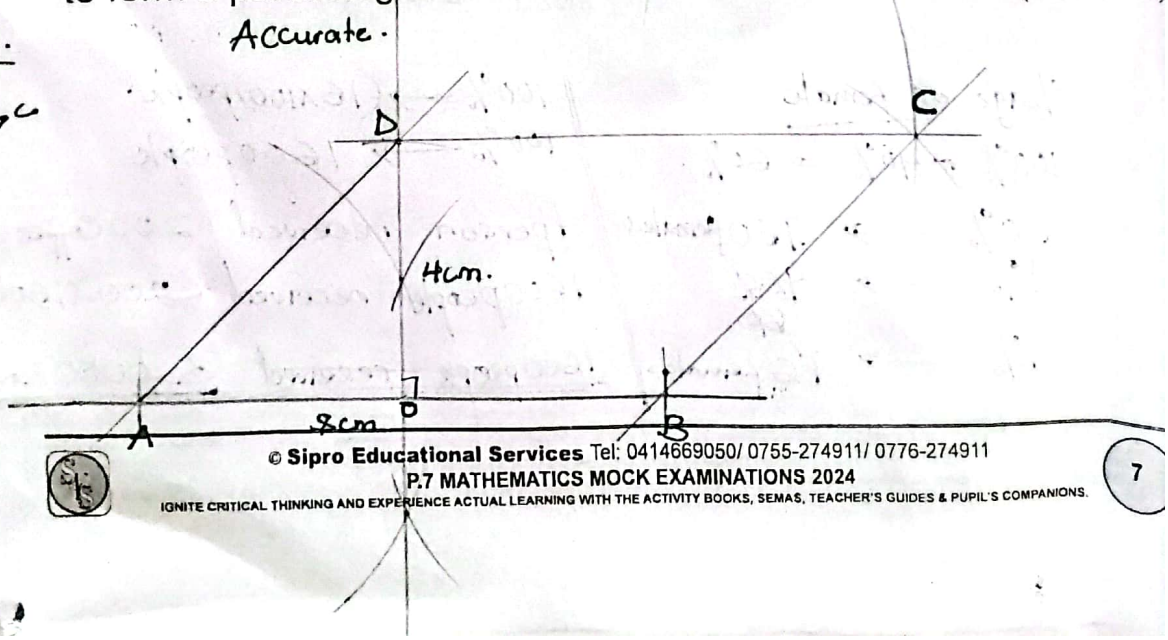
30 − (14 + 4) = 30 − 18 = 12

27. Follow the instructions below and construct a parallelogram ABCD in the space provided. Draw a horizontal line AB of length 8cm. Draw a perpendicular bisector of line AB. Mark point 0 where the bisector meets line AB. Measure the length of 4cm from 0 along the bisector, mark the point D. Join A to D. Lines AD and AB form two sides of the parallelogram ABCD. Complete the diagram to form a parallelogram. *(04 marks)*

Sketch.



Accurate.



28. **The table below shows how different types of crops are bought and sold at a certain village store.** *Use it to answer the questions that follow.*

Type of crop	Rate at which the store buys	Rate at which the store sells.
1kg of coffee	sh. 3,550	sh. 3,600
1kg of maize	sh. 850	sh. 870
1kg of beans	sh. 1,250	sh. 1,300

a) One day, the storekeeper made a profit of **sh. 3,900** on beans. Find in kilogrammes, the mass of the beans sold. *(02 marks)*

Profit = B.P − S.P.

sh 1300
sh 1250
sh 0050

No of kgs = sh 3900 / sh 50

= 78kg

b) Wasswa had **174** kilogrammes of coffee that he exchanged for maize, how many kilogrammes of maize did he get? *(03 marks)*

Coffee

1kg costs sh 3550.

174kg cost (sh 3550 × 174)

Maize (Exchange).

sh 870 → 1kg.

(sh 3550 × 174) → (sh 3550 × 174 / sh 870) kg

= 355 × 2

= 710kg of maize

29. The table below shows how a cyclist travelled from town **A** through town **B** and **C** to town **D**.

Town	Arrival	Departure
A		10:00a.m
B	10:30a.m	10:45a.m
C	11:15a.m	11:30am
D	1:15p.m	

a) How long did the cyclist stay at town **C**? *(02,marks)*

11:30 am
− 11:15 am
00 15

At 15minutes.

30 − 15
= 15

b) Find the time the cyclist took to travel from town C to town D

(02 marks)

To 24hours

+ 1:15 pm
12:00 hours
13 15 hours

To 24hours

11:30am
00 00 hours
1130hours

For 1hour 15minutes

12 75
~~13 15~~ hours
- 1130 hours
1:45

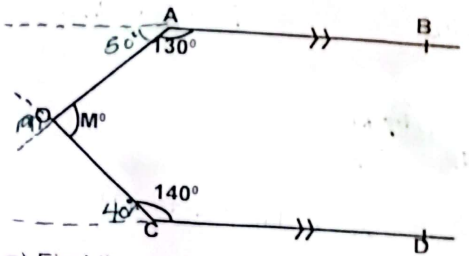
75-30=45
12-11=1

c) Change the arrival time at town B to 24 hour clock system

(01 mark)

+10:30am
00 00 hours
1030 hours

30. In the figure below, AB is parallel to CD, angle OAB = 130° and angle OCD = 140°.



180°
-130°
50°

180°
-140°
40°

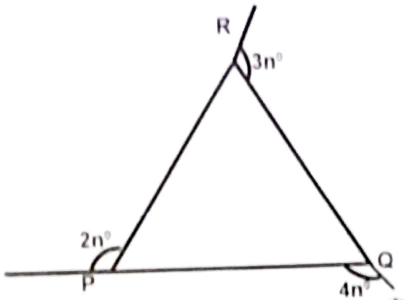
a) Find the value of M in degrees.

(02 marks)

M + 40° + 50° = 180°
M + 90° - 90° = 180° - 90°
M = 90°

180°
-90°
90°

b) The diagram below shows a triangle **PQR**. Find the value of n in degrees. (02 marks)



$2n + 3n + 4n = 360^\circ$

$\frac{9n}{9} = \frac{360^\circ}{9}$

$n = 40^\circ$

31. The median of 4 consecutive even numbers is 27

a) Find the numbers (03 marks)

Let the 1st no be x

1st	2nd	3rd	4th
x	x+2	x+4	x+6

$\frac{x+2+x+4}{2} = 27$

$\frac{2x+6}{2} = 27 \times 2$

$2x + 6 - 6 = 54 - 6$

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

$x = 24$

Numbers are 24, 26, 28, 30

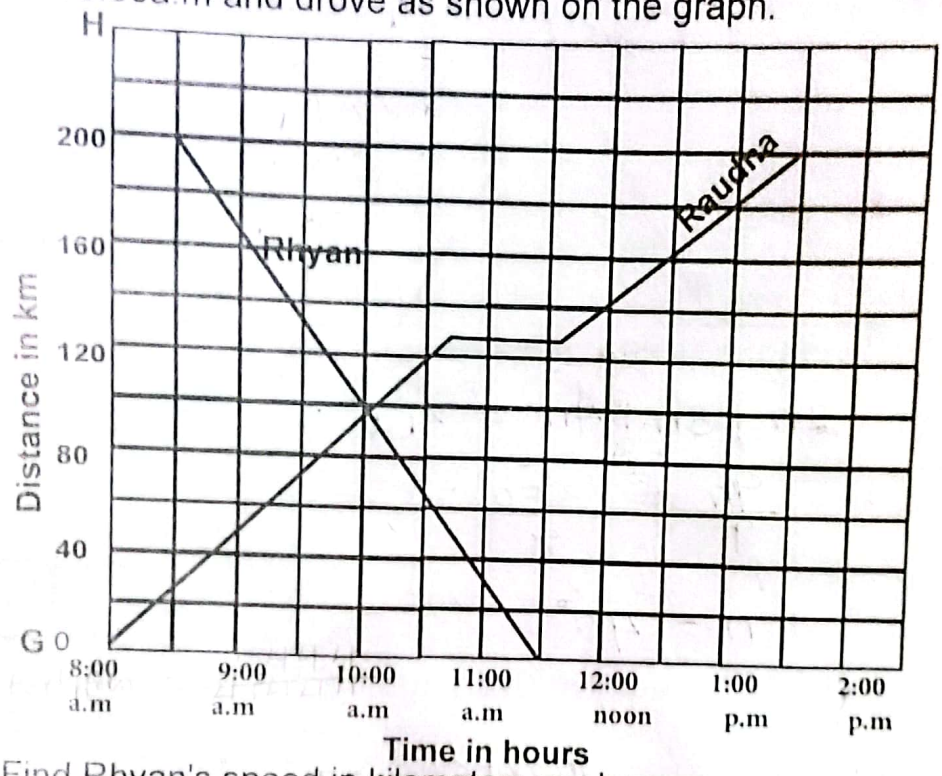
b) Work out the product of the largest and least numbers (02 marks)

Product = 30×24

$= 720$

$\begin{array}{r} 24 \\ \times 3 \\ \hline 72 \end{array}$

32. The graph below shows the journey made by Ryhan and Raudhar between towns G and H, 200 metres apart. Ryhan left town H at 8:30a.m and drove at a steady speed to town G. Raudha left town G at 8:00a.m and drove as shown on the graph.



a) Find Rhyan's speed in kilometers per hour. *(02 marks)*

Speed = $\frac{D}{T}$

= $\frac{200km}{3h}$

= $66\frac{2}{3}$ km/h.

b) At what time did Ryhan and Raudhar meet? *(01 mark)*

They met at 10:00am.

c) Calculate Raudhar's average speed after resting. *(02 marks)*

Average speed = $\frac{D}{T}$

= $\frac{80km}{2h}$

= 40km/h