

KOLFRAM EDUCATIONAL SERVICES KAMPALA



PRE NATIONAL MOCK EXAMINATION 2024

SET FOUR (BLUE PRINT)

MATHEMATICS



Time allowed: **2 hours 30 minutes**

Index Number:

Random Number						Personal Number		

Candidate's Name:

Candidate's Signature:

School ID:

District ID:

DO NOT OPEN THIS BOOKLET UNLESS YOU ARE TOLD TO DO SO

Read and follow these instructions carefully:

1. This paper has **two** sections: **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. The paper has **10** printed pages.
2. Answer **all** questions. **All** answers to both sections A and B must be shown in the spaces provided.
3. All answers **must** be written using a **blue** or **black** ball point pen or ink. Any answer written in pencils other than on graphs and diagrams will **not** be marked.
4. No calculators or **electronic** pens are allowed in the examination room.
5. Unnecessary **changes** in your work and handwriting that cannot 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 EXAMINER'S USE ONLY

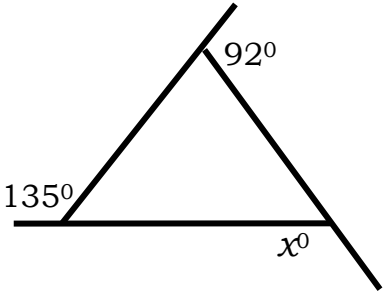
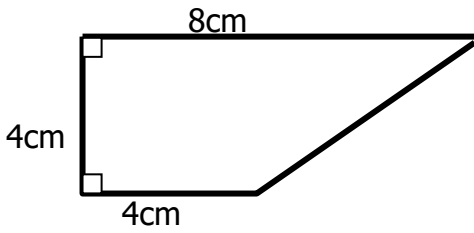
QN. NO.	MARKS	EX'ER'S INITIAL
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 23		
24- 26		
27-29		
30- 32		
TOTAL		

Turn Over

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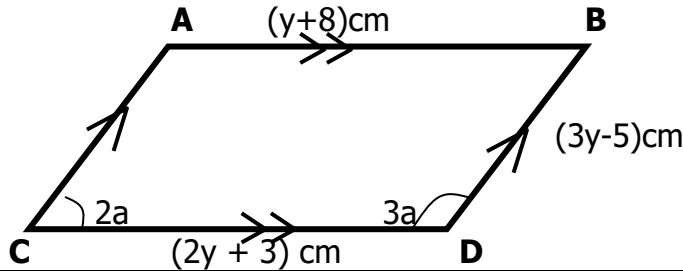
SECTION A: (40 MARKS)

1.	Work out: $\begin{array}{r} 68 \\ + 26 \\ \hline \end{array}$	2.	Given that set A = {0, 1, 2, 3, 5, 7} and set B = {0, 4, 6, 7, 9} Find $n(A \cap B)$
3.	Work out: $+7 - -4$	4.	If 20% of a number is 80, what is the number?
5.	A baby slept at 8:35 a.m. If the baby slept for 2 hours and 45 minutes, at what time did the baby wake up?	6.	Work out: $1\frac{1}{12} - \frac{5}{6}$
7.	Divide: 6363 by 7	8.	Find the next number in the following number pattern: 1, 3, 6, 11, 18, _____
9.	Peter walked 0.15km. What distance did he cover in metres?	10.	A cyclist covered 70km in 2 $\frac{1}{2}$ hours. How long will he take to cover 21 km at the same speed?
11.	Using a protractor, draw an angle of 45° in the space below.		

12	Maria has a bundle of five thousand shilling notes numbered consecutively from AP534201 to AP534300. How much money does she have?	13	Work out: $\frac{0.25 \times 5.4}{0.045}$
14	Given that $a = 2b$ and $b = 3$, Find the value of $\frac{a}{b}$	15	Town A and town B are 210km away. The difference between town B and C is 90km. How far is town C from town A via town B?
16.	<p>In the figure below, BCD is a triangle Find the value of x.</p> 		
17.	Arrange the following integers beginning with the smallest. 3, 0, -1, 8, -6	18.	Find the area of the trapezium below. 
19.	Primary Seven pupils will have a party next week. Find the probability that the party will take place on a day that starts with letter T.	20.	List all the integers which are members of the solution set x such that $8 \leq x < 12$

SECTION B: (60 MARKS)

21. Use the figure below to answer questions that follow.



- (a) Find the value of a . **(2 marks)** (b) Find the size of angle BAC in degrees. **(1 mark)**

(c) Work out the value of y . **(2 marks)**

22. At St. Paul Primary School, some pupils did a test and scored marks as shown in the table below.

Marks	50	K	45	80
Number of pupils	2	6	3	4

- (a) How many pupils did the test? **(1 mark)** (b) Find the value of K if the mean mark was 61. **(2 marks)**

(c) What was the range of the marks? **(1 mark)**

23. (a) Find the number which has been expanded below
 $(1 \times 10^4) + (3 \times 10^2) + (6 \times 10^0)$ **(1 mark)** (b) Change 1011_{two} to base ten. **(2 marks)**

(c) Find the value of x . $3 + 3 = x$ (finite 4)

(2 marks)

24. The rates at which a bank buys and sells United States dollars and Kenya Shillings are given in the table below.

Currency	Rate at which a bank buys	Rate at which a bank sells
One U.S Dollar	Ug. Sh. 2800	Ug. Sh. 2900
One Kenya Shilling	Ug. Sh. 28	Ug. Sh. 30

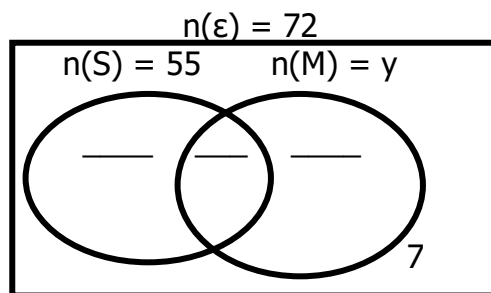
(a) If a trader has 300 dollars and 500 Kenya shillings, how much money in Uganda shillings can he get from the bank? (3 marks)

(b) Mark has Ug. Sh. 1, 160,000, how many U.S. dollars can he get from the bank?

(2 marks)

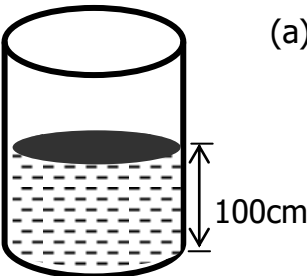
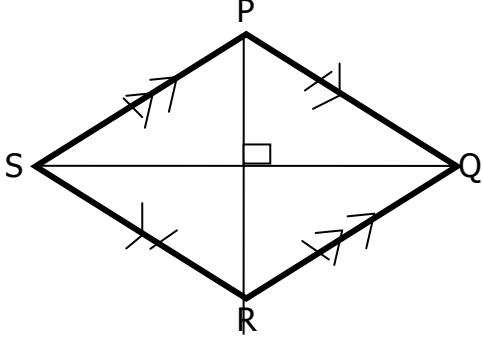
25 At a birthday party, 72 guests were invited. 55 were served with sodas (S), y were served with mineral water (M) while 7 did not take any of the two drinks and 17 were served with both drinks.

(a) Represent the above information on the Venn diagram. (3 marks)

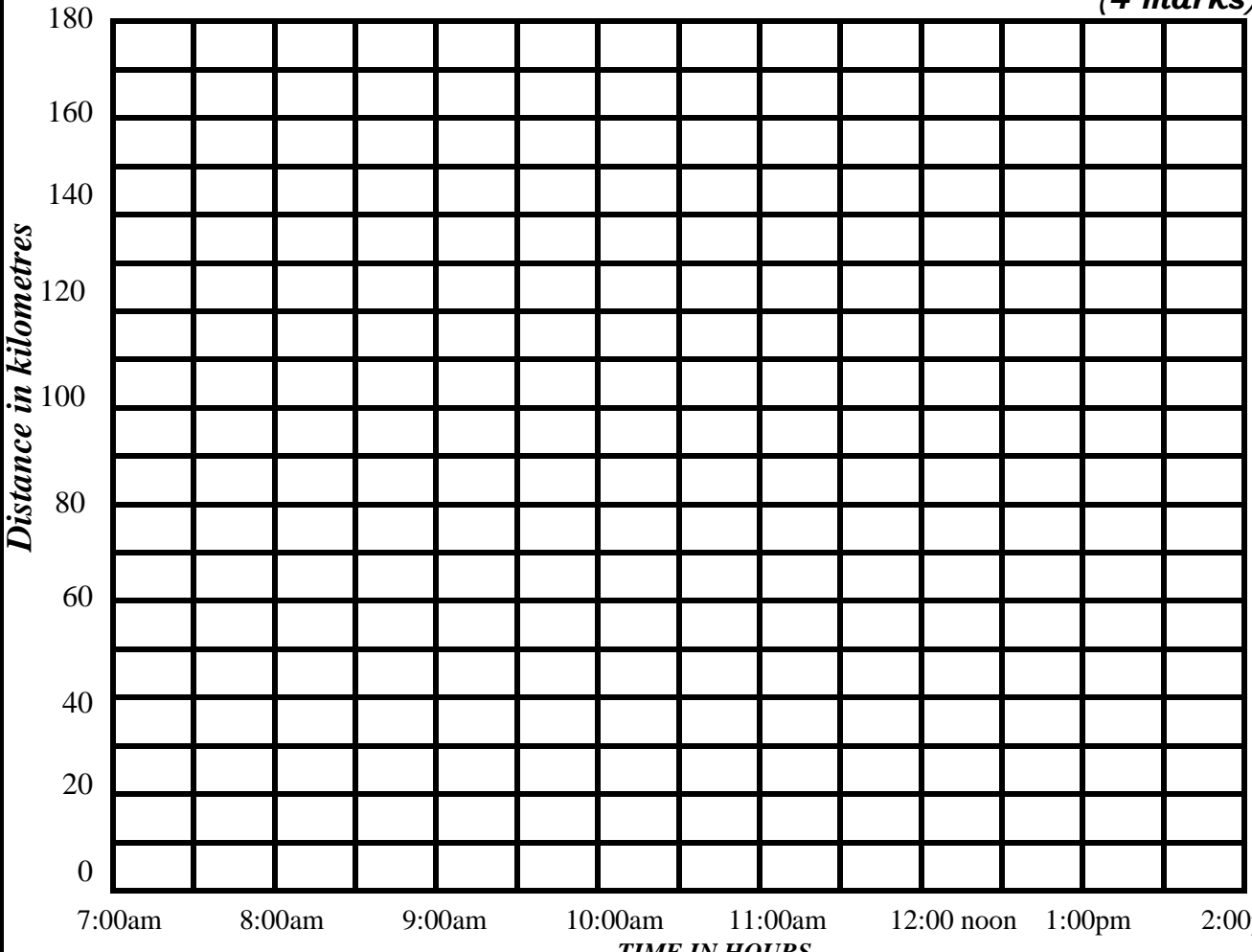


(b) Find the value of y . (2 marks)

(c) How many guests were served with one drink only? (1 mark)

26.	<p>The figure below is a cylindrical tank containing 1540 litres of water.</p>  <p>(a) Find the radius of a tank.(use $\pi = \frac{22}{7}$) (3 marks)</p>		
(b)	<p>If the tank is $\frac{4}{5}$ full, find its capacity. (2 marks)</p>	27	<p>(a) Solve: $\frac{m + 2}{2} = \frac{4m - 4}{11}$ (2 marks)</p>
(b)	<p>Annet is 20 years younger than Peter. In 15 years time, Peter will be twice as old as Annet. How old is Annet now? (3 marks)</p>		
28.	<p>The diagram below is a rhombus PQRS. Its perimeter is 80cm. Diagonal SQ is 24cm long. (a) Find the length of diagonal PR (3 marks)</p> 		
(b)	<p>Find area of the rhombus. (2 marks)</p>		

29.	The District Inspector of Schools of a certain district registered 4000 candidates for PLE – 2007. Out of these, 30% were girls below 15 years and 25% were boys below 15 years of age. If there were 1000 girls, who were above 15 years of age:- (a) Find the number of girls who sat for PLE. (2 marks)																				
	(b) Find the number of boys who sat for PLE. (1 mark)	(c)	How many first grades did the district get if all the candidates below 15 years of age passed in division one? (2 marks)																		
30	<p>The table below shows the arrival and departure time for Unity bus that travels from Kampala to Hoima daily.</p> <table><tr><th>Town</th><th>Arrival time</th><th>Departure time</th></tr><tr><td>Kampala</td><td></td><td>7:30 a.m.</td></tr><tr><td>Busunju</td><td>8:10 a.m.</td><td>8:30 a.m.</td></tr><tr><td>Bukomero</td><td>9:30 a.m.</td><td>9:45 a.m.</td></tr><tr><td>Kiboga</td><td>10:15 a.m.</td><td>10:40 a.m.</td></tr><tr><td>Hoima</td><td>11:40 a.m.</td><td></td></tr></table> <p>(a) At what time does the bus leave Kampala?</p>			Town	Arrival time	Departure time	Kampala		7:30 a.m.	Busunju	8:10 a.m.	8:30 a.m.	Bukomero	9:30 a.m.	9:45 a.m.	Kiboga	10:15 a.m.	10:40 a.m.	Hoima	11:40 a.m.	
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	(b) How long does the bus stay at Bukomero? (1 mark)	(c)	How long does the bus take to travel from Bukomero to Kiboga? (1 mark)																		
	(d) Find the total time taken by the bus to travel from Kampala to Hoima. (2 marks)																				

31.	The bearing of town B from town A is 120° and town B is 4km from A. The bearing of town C from B is 060° and town C is 5km from B.		
(a)	Draw an accurate diagram showing the three towns. (Use scale: 1cm = 1km) (4 marks)	(b)	Find the shortest distance between town A and C in kilometers. (1 mark)
32.	<p>Atine left Kampala at 7:00 a.m. driving a lorry at an average speed of 40km/hr for 2 hours to Jinja. He rested for one hour at Jinja, then continued to Tororo at an average speed of 50km/hr for another 2 hours.</p> <p>(a) Use the above information to show Atine's journey on the graph below. (4 marks)</p> 		
(b)	Calculate Ariko's average speed for the whole journey. (1 mark)		