THE REPUBLIC OF UGANDA

TAAND EXAMINATIONS BOARD
END OF FIRST TERM EXAMINATION, 2024
PRIMARY SEVEN
MATHEMATICS

Time Allowed: 2 hours 30 minutes

Random Number						Personal Number		

Candidate's Name: ....

Candidate's Signature..

School Name:...

District:..

Read the following instructions carefully:

1. This paper is made up of two Sections: A and B.

2. Section A, has 20 short-answer questions (40 marks) and Section B has 12 questions (60 marks)

3. All the working for both sections A and B must be shown in the spaces provided.

4. All working must be done using a blue or black ball - point pen or fountain pen. Only diagrams should be done in pencil.

5. No calculators are allowed in the examination room.

6. Unnecessary alteration of work may lead to loss of marks.

7. Any handwriting that cannot easily be read may lead to loss of marks.

8. Do not fill anything in the boxes indicated "For examiners' use only"

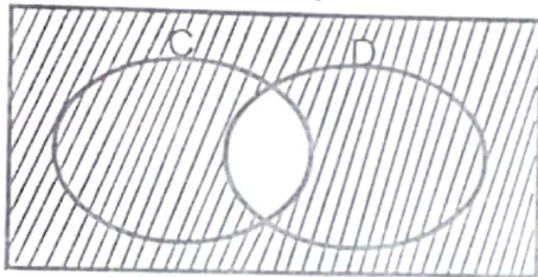| FOR EXAMINER'S USE ONLY		
Qn. No.	Marks	Exrs' No.
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

Turn Over

Answer all questions in section A. Each question carries 2 marks.
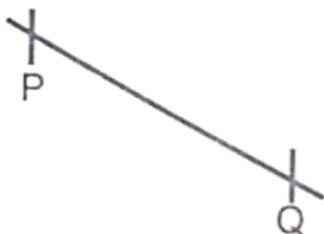
1. Work out 3p + 2p + 4p.

2. Calculate the LCM of 9 and 12.

3. Write the shaded part.

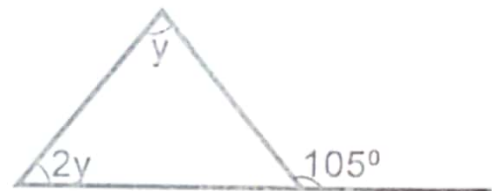4. The cost of 6 shirts is sh.42,000. Find the cost of 2 similar shirts.

5. Use a pair of compasses and a ruler only to bisect the line segment PQ.

6. Work out the product of the third and the sixth prime number.

7. Find the value of;
   4 + 5 = _____ (finite 7).

8. What is the value of y on the figure.

9. Express 249 into Roman numerals.
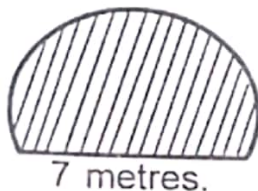
10. Solve -2p + 7 = 17.

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11. A parent deposited a bankslip of sh.2,369,450 for school fees. Write the amount in words.

12. Find the sum of $\frac{1}{5}$ and $\frac{3}{4}$.

13. Simplify: $\dfrac{M^2 \times M^5}{M^4}$

14. A trader bought a hen at sh.8,000. He later sold it at sh.10,000. Calculate his percentage profit.

15. Calculate the circumference of the shape below.

7 metres.

16. A cyclist travels at 48km/hr. What distance does he cover in 40 minutes?

17. Convert 1011_{two} to base ten.
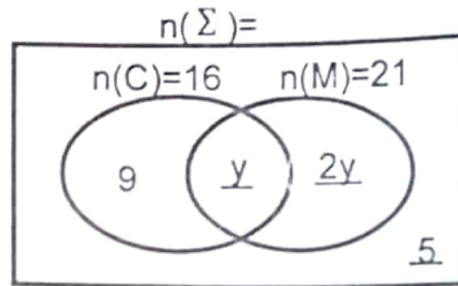
18. Divide: $12\overline{\smash{)}4860}$.

19. In a factory, 3 people can repair a house in 8 days. How long will 2 people take to repair the same house?

20. Calculate the square root of $2\frac{1}{4}$.

11.

21.   In a class, 16 pupils like cakes (C), 21 like mandazi (M), some like both and 5 like neither.

$$n(\Sigma)=$$

n(C)=16   n(M)=21

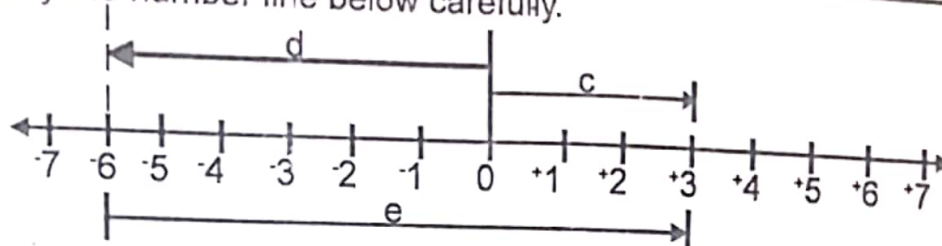9   y   2y

5

12.

(a)   Study the venn diagram above and use it to find the value of y.   *(3marks*

(b)   How many pupils are in the class?   *(2marks*

13.

22.(a)   Find the place value of 7 in 87695.   *(2marks*

14.

(b)   Calculate the difference of the value of 7 and the value of 8 in 27485.   *(3marks*

15.

23. Study the number line below carefully.

(a) Write the integers represented above. **(3marks)**

(i) c = _____ (ii) d = _____

(iii) e = _____

(b) State the mathematical sentence represented. **(2marks)**

24. Nathan, Hassan and Jane shared some money in the ratio 3:2:4. Hassan got sh.10,000

(a) Find the total amount they shared. **(3marks)**

(b) How much money did Jane get? **(2marks)**

25.(a) With the use of a pair of compasses, a ruler and a sharp pencil, construct triangle CDE such that CD=10cm, DE=8cm and CE=6cm. **(4marks)**

(b) Measure angle CED. **(1mark)**

26. A girl has a note of sh.20,000 and went to buy the following;
2kg of beans at sh.3000 per kg.
$1\frac{1}{2}$ litres of milk at sh.2200 per litre.
3kg of rice at sh.3000 per kg.

(a) Find her total expenditure. **(4marks)**
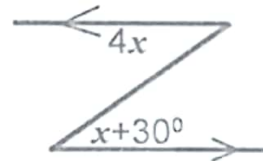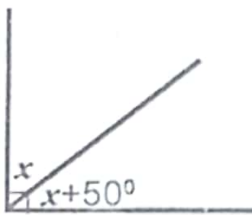
(b) Calculate her change. **(2marks)**

27.(a) Find the value of the angles represented by x.

(a) **(2marks)**

x
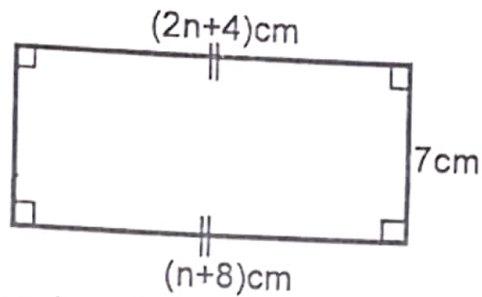$x+50^0$

(b) **(2marks)**

$4x$
$x+30^0$

28. In a school, two bells are used at intervals of 30 minutes and 40 minutes respectively.

(a) How long do they take to ring together again? **(2marks)**

(b) At what time do they ring together again if they first rung at 8:30am? **(2marks)**

29. Below is a rectangle. Study it and answer questions that follow.

(2n+4)cm

7cm

(n+8)cm

(a) Find the value of n.

(2marks)

(b) Calculate the area of the rectangle.

(2marks)

(c) Work out the perimeter of the rectangle.

(2marks)

30. A motorist covered 180km from town A to town B at 60km/hr. He continued from town B to town C at 80km/hr for 2 hours.

(a) Find the distance from town B to town C.

(2marks)

(b) Calculate the total distance from town A to town C.

(2marks)

(c) Work out the average speed for the whole journey.

(2marks)

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31. The table shows Panda's marks.

Subject	Science	SST	Math	Eng	R.E
Mark	70	60	80	90	80

(a) Find the range. *(2marks)*

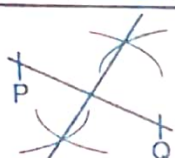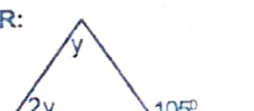(b) Find his median mark. *(1mark)*
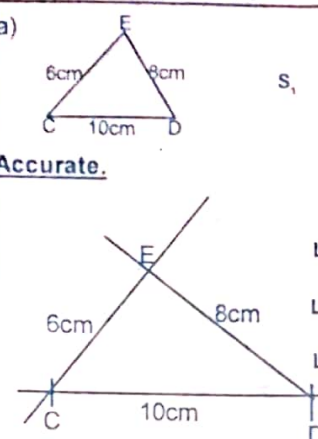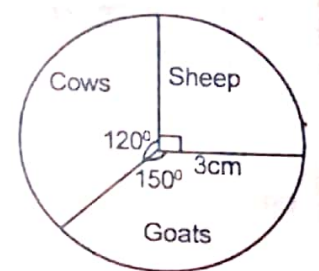
(c) Calculate his mean mark. *(2marks)*

32. On a farm, there are 6 sheep, 8 cows and 10 goats. Use the information to construct a pie-chart of radius 3cm. *(4marks)*

END*

SOLUTIONS	QN	SOLUTIONS	QN	SOLUTIONS
SECTION A:(40 MARKS)	10.	$-2p + 7 = 17$	19.	3people $\longrightarrow$ 8days

SECTION A:(40 MARKS)

1. $3p + 2p + 4p$
$= 7p.$ B_2

2. $M_9 = \{9, 18, 27, (36), 45....\}$ M_1
$M_{12} = \{12, 24, (36), 48 .....\}$ A_1
LCM = 36.

OR

```
2 | 9 | 12
2 | 9 | 6
3 | 9 | 3
3 | 3 | 1
  | 1 | 1
```
LCM = 2 x 2 x 3 x3
LCM = 36.

3. $(C \cap D)^1$

OR B_2

Complement of $C \cap D$.

4. 6 shirts $\longrightarrow$ sh.42000
1 shirt $\longrightarrow$ $\dfrac{sh.42000^{7}}{6}$
$= sh.7000$ B_1

2 shirts $\longrightarrow$ 2 x sh.7000
$= sh.14,000$ B_1

5.

C_1
L_1

6. Prime no $\{2, 3, (5), 7, 11, (13), 17,....\}$
   3rd   6th B_1

Product 5 x 13
$= 65$ B_1

7. $4 + 5 = \_\_\_\_$ (finite....7)
$9 \div 7 = 1 \ r \ 2$ M_1
$\therefore 4 + 5 = 2$ (finite...7) A_1

8. $y + 2y = 105^0$ M_1
$\dfrac{3y}{3} = \dfrac{105^0}{3}$
$y = 35^0$ A_1

OR:

$180^0 - 105^0 = 75^0$
$2y + y + 75 = 180^0$
$3y + 75 - 75 = 180^0 - 75^0$
$\dfrac{3y}{3} = \dfrac{105^0}{3}$
$y = 35^0$

9. 2 4 9
$200 + 40 + 9$
$CC + XL + IX$
$= CCXLIX$ B_2

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10. $-2p + 7 = 17$
$-2p + 7 - 7 = 17 - 7$ M_1
$\dfrac{-2p}{-2} = \dfrac{-10^{5}}{-2}$
$P = -5$ A_1

11.

M	TH	UNITS
2	369	450

B_2

Two millions, three hundred sixty nine thousands, four hundred fifty.

12. $\dfrac{1}{5} + \dfrac{3}{4} = \dfrac{4 + 15}{20}$ M_1
$= \dfrac{19}{20}$ A_1

13. $\dfrac{m^2 \times m^5}{m^4}$
$\dfrac{m \times m \times m \times m \times m \times m \times m}{m \times m \times m \times m}$ M_1
$= m^3$ A_1

OR

$(m^2 \times m^5) \div m^4$
$m^{(2+5)-4}$
m^{7-4}
$= m^3$

14. CP - BP = P
sh.10,000 - sh.8000
$= sh.2000$ B_1
$\%P = \dfrac{P}{BP} \times 100\%$
$\dfrac{2000^{1}}{8000_{4}} \times 100\%^{25}$
$= 25\%$ B_1

15. $C = \dfrac{1}{2}\pi D$
$C = \dfrac{1}{2} \times \dfrac{22}{7} \times 7m$ M_1
$C = 11m.$ A_1

16. $D = S \times T$
$D = 48km/hr \times \dfrac{40}{60}hr$ M_1
$D = 48km/hr \times \dfrac{2}{3}hr$
$D = 32km$ A_1

17. $1 \ 0 \ 1 \ 1_{two}$
(2,2)
(2,2,2)
$(1 \times 2 \times 2 \times 2)+(0 \times 2 \times 2)+(1 \times 2)+(1 \times 1)$ M_1
$8 + 0 + + 1$
$= 11_{ten}$ A_1

18.
```
    0405
12|4860
0x12 = -0↓
      -48
4x12 = 48
      006
0x12 =  0▼
       60
5x12 = 60
       00
```
M_1
$= 405.$ A_1

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19. 3people $\longrightarrow$ 8days
1 person $\longrightarrow$ 3 x 8days
2 people $\longrightarrow \dfrac{3 \times 8^{4}}{2}$days M_1
$= 12$ days A_1

20. $\sqrt{2\dfrac{1}{4}}$
$= \sqrt{\dfrac{9}{4}} = \dfrac{\sqrt{9}}{\sqrt{4}} = \dfrac{3}{2}$ M_1
$= 1\dfrac{1}{2}$ A_1

SECTION B:(60 MARKS)

21. (a) $y + 2y = 21$ M_1
$\dfrac{3y}{3} = \dfrac{21}{3}$ M_1
$y = 7.$ A_1

(b) $9 + (y) + (2y) + 5$
$9 + 7 + (2 \times 7) + 5$
$9 + 7 + 14 + 5$ M_1
$= 35$ pupils. A_1

22. (a) TTH TH H T O
   8   7   6   9   5
       Thousands B_2

(b) TTH TH H T O
   2   7   4   8   5
      8x10=80
     7x1000=7000
7000 B_1
- 80 B_1
6920 B_1
   B_1

23. (a)(i) $c = {}^+3$ B_1
(ii) $d = {}^-6$ B_1
(iii) $e = {}^+9$ B_1
(b) $c - d = e$
${}^+3 - {}^-6 = {}^+9$ B_2

24. (a)

Nathan	Hassan	Jane	Total
3	2	4	9

Let the total be c.
$\dfrac{2}{9} \times c = sh.10,000$ M_1
$\dfrac{2^{1}}{9} \times 2c = sh.10,000 \times \dfrac{9^{5}}{2}$ M_1
$c = sh.45,000$ A_1

OR 2parts represent dh.10000
1part represents sh.$\dfrac{10,000^{5}}{2}$
$= sh.5000$
9 parts represents 9 x sh.5000
$= sh.45,000$

(b) $\dfrac{4}{9} \times sh.45000^{5}$ M_1
$= sh.20,000$ A_1

OR 9 parts represent sh.45000
1part represents sh.$\dfrac{45000}{9} = sh.5000$
4parts represents 4 x sh.5000
$= sh.20,000$

QN	SOLUTIONS	QN	SOLUTIONS	QN	SOLUTIONS

25. (a)

Accurate. S_1

L_1
L_1
L_1

(b) Angle CED = 90^0 B_1

26. (a) Beans: B_1
sh.3000
$\times$ 2
sh.6000

Milk: B_1
$3 \times$ sh.$\overset{11}{\underset{2}{2200}}$
sh.3300

Rice:
sh.3000
$\times$ 3 B_1
sh.9000

Total:
sh.6000
sh.3300 B_1
sh.9000
sh.18,300

(b) sh.$\overset{1\ 9\ 10}{20,000}$ B_1
− sh.18,300
sh.1,700 B_1

27. (a) $x + x + 50^0 = 90^0$
$2x + 50^0 = 90^0$
$2x + 50 - 50 = 90^0 - 50^0$ M_1
$\dfrac{2x}{2} = \dfrac{40^0}{2}$
$x = 20^0$ A_1

(b) $4x = x + 30^0$
$4x - x = x - x + 30^0$ M_1
$\dfrac{3x}{3} = \dfrac{30^0}{3}$
$x = 10^0$ A_1

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28. (a) $M_{30} = \{30, 60, 90, \textcircled{120}, 150, ...\}$minutes M_1

$M_{40} = \{40, 80, \textcircled{120}, 160, ...\}$minutes A_1

= 120 minutes OR $\dfrac{\overset{2}{\cancel{120}}}{\cancel{60}} = 2$hrs

OR

2	30	40	$2\times2\times2\times3\times5$
2	15	20	= 120 minutes
2	15	10	OR $\dfrac{\cancel{120}}{\cancel{60}} = 2$hrs
3	15	5	
5	5	5	
	1	1	

(b) Hrs Min M_1
$\ \ 8 \ \ \ \ \ 30$
$+2 \ \ \ \ \ 00$
$\overline{10 \ \ \ \ \ 30am}$ A_1

29. (a) $2n + 4 = n + 8$
$2n - n + 4 - 4 = n - n + 8$ M_1
$\dfrac{\cancel{2}n}{\cancel{2}} = \dfrac{\cancel{8}}{\cancel{2}}$
$n = 4.$ A_1

(b) $A = L \times W$ B_1
$A = 12cm \times 7cm$
$A = 84cm^2$ B_1

(c) $P = L + W + W$
$P = 12cm + 7cm + 12cm + 7cm$
$P = 38cm.$

OR

$P = 2(L + W)$
$P = 2(12cm + 7cm)$ M_1
$P = 2 \times 19cm$
$P = 38cm$ A_1

30. (a) B to C
$D = S \times T$
$D = 80km/hr \times 2hrs$ M_1
$D = 160km$ A_1

(b) A to B = 180km
B to C = 160km M_1
Total distance = 180km + 160km
= 340km. A_1

(c) A to B
Time $= \dfrac{D}{S} = \dfrac{180km}{60km/hr} = 3$hrs

A to C
Average speed = $\dfrac{\text{Total distance}}{\text{Total time}}$
$= \dfrac{180km + 160km}{2hrs + 3hrs}$
$= \dfrac{340km}{5hrs} = 68km/hrs$

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31. (a) Range H − L M_1
Range = 90 − 60
= 30 A_1

(b) Median = 60, 70, ⑧0, 80, 90
= 80 B_1

(c) Mean = $\dfrac{\text{Sum of data}}{\text{No of data}}$

Mean = $\dfrac{70 + 60 + 80 + 80 + 90}{5}$ M_1

Mean = $\dfrac{380}{5}$

= 76. A_1

32.

sheep	cows	goats	Total
6	8	10	24

Angles

Sheep
$\dfrac{\cancel{6}^1}{\cancel{24}} \times \overset{90}{\cancel{360^0}}$
$= 90^0$ B_1

Cows
$\dfrac{\cancel{8}^1}{\cancel{24}} \times \overset{120}{\cancel{360^0}}$
$= 120^0$ B_1

Goats
$\dfrac{\cancel{10}^5}{\cancel{24}_{12}} \times \overset{30}{\cancel{360^0}}$
$= 150^0$ B_1

END