

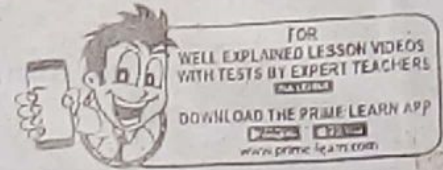


THE **PRIME** EXAMINATIONS 2023

PRIMARY SIX END OF TERM II

**MATHEMATICS**

Time allocated 2 hours 30 minutes



Name: .....

Signature: .....

School: .....

District Name: .....

**READ THE FOLLOWING INSTRUCTIONS CAREFULLY**

1. This paper has two sections: **A** and **B**. Section **A** has 20 questions (40 Marks) and Section **B** has 12 questions. (60 Marks)
2. Answer **ALL** questions. All the working 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 on 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 cannot be read easily may lead to loss of marks.
6. Do not fill anything in the table indicated

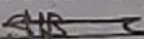
**"FOR EXAMINERS' USE ONLY"**

**PUBLISHERS OF:-**

THE PRIME; SCHEMING FRAME WORKS, PUPIL'S WORKBOOKS, LESSON COURSE BOOKS, HOLIDAY PACKAGES  
LEARNING GAMES, REVISION BOOKS, PLE ANALYSIS REPORTS AND MANY MORE.

FOR EXAMINERS' USE ONLY		
QUESTION NUMBER	MARKS ATTAINED	INITIALS
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

APPROVED

  
Consultant

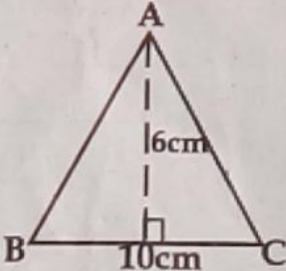
Mathematics Department (PEC)

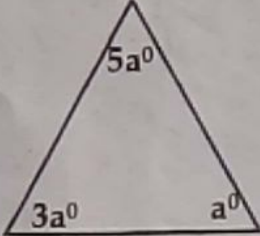
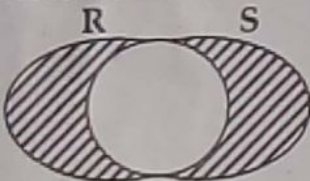
Turn Over

Organised by: **PRIME EDUCATIONAL CONSULT** @2023 **Kampala**



# Section A (40 Marks)

1	Divide: $36 \div 6$	2	Find the sum of $\frac{1}{3}$ and $\frac{1}{4}$
3	Find the next two numbers in the sequence below. 25, 16, 9, _____, _____	4	5kg of sugar cost sh.15,000. How much money will one pay for 3kg of sugar?
5	Solve: $11x = 121$	6	In a basket, there are 15 blue pens and 5 red pens. If one pen is picked at random, what is the probability of picking a blue pen?
<p>Find the area of the triangle below.</p> 			
8	Round off 396 to the nearest tens.	9	Write in words 22,303.

10	What is the complement of $49^\circ$ ?	11	Work out: $-8 + -2$
12	20% of the animals on a farm are cows. If there are 35 cows, how many animals are on the farm?		
13	Find the value of $a$ in degrees. 		
14	Describe the shaded region. 	15	Write 68 in Roman numerals.
16	A motorist covered a distance of 120km in $1\frac{1}{2}$ hours. What was his speed in km/h?	17	In a class of 60 pupils, 25 are girls and the rest are boys, find the ratio of boys to girls.
18	Find the square root of $1\frac{11}{25}$	19	The cost of 1 Ksh is Ugsh 28. How much Ugandan shillings will Joseph get from Ksh 350?



- 20 A truck carries 7 tonnes of cement. How many bags of cement each weighing 50kg can the truck carry?

**Section B (60 Marks)**

- 21 Given that  $X = \{\text{all prime numbers between 1 and 15}\}$  and  $Y = \{\text{all odd numbers between 2 and 15}\}$

(a) List a set of members of;  
(i) set X. (01 mark)

(ii) Set Y (01 mark)

(b) List a set of members of  $(X \cap Y)$  (02 marks)

(c) Find  $n(X \cup Y)$  (02 marks)

- 22 At a clinic, 10 children had the following masses in kg:  
9, 10, 11, 10, 12, 7, 8, 10, 10, 11.

(a) Find (i) modal mass (02 marks)

(ii) median mass (02 marks)

(iii) mean mass (02 marks)

- 23 Using a pair of compasses, aruler and a sharp pencil, only, construct a triangle ABC with side  $AB = 4\text{cm}$ ,  $BC = 6\text{cm}$  and  $AC = 8\text{cm}$ . (04 marks)

(b) Measure angle ABC.

(01 mark)

- 24 A trader borrowed sh. 400,000 from a bank at an interest rate of 5% per year.  
(a) How much interest must he pay after 6 months? (02 marks)

(b) What amount of money will he pay altogether?

(02 marks)

(c) Workout:  $\frac{4.8 \times 0.3}{0.4 \times 0.9}$

(02 marks)



- 25 A woman went to Kisekka market and bought the following items.

4kg of meat at 12500 per kg.  
 $2\frac{1}{2}$  kg of rice at sh 4000 per kg.  
4kg of posho at sh.8400  
500gm of sugar at sh.3200 per kg.

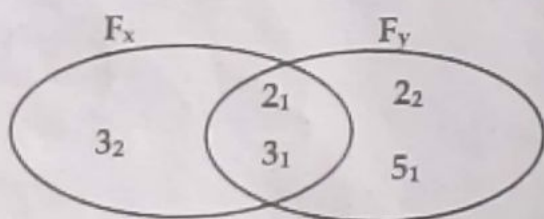
(a) Find her total expenditure.

(04 marks)

(b) What was her balance if she had four notes of twenty thousand shillings?

(02 marks)

- 26 Study the Venn diagram and answer the questions that follow.



(a) Find the value of X.

(02 marks)

(b) Find the value of Y.

(02 marks)

(c) Find the L.C.M of X and Y.

(02 marks)

27 James had bank notes numbered from AP0043300 to AP0043399.

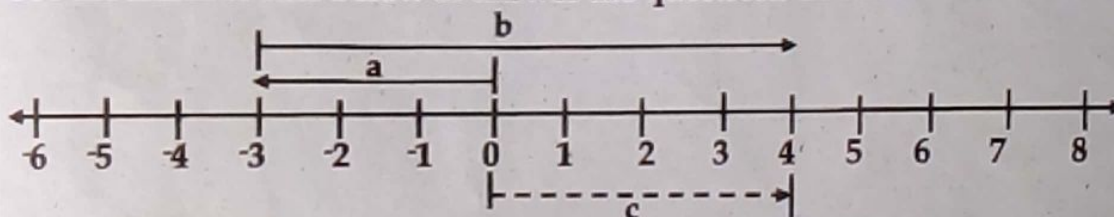
(a) How many bank notes does Jane have?

(02 marks)

(b) If each note is worth 10,000 shillings in value, how much money does Jane have altogether?

(02 marks)

28 Use the number line below to answer the questions about it.



(a) Write down the integers represented by the arrows. (01 mark each)

(i)  $a =$  \_\_\_\_\_ (ii)  $b =$  \_\_\_\_\_ (iii)  $c =$  \_\_\_\_\_

(b) Write down the mathematical statement shown on the above number line.

(02 marks)

29 Workout:

(02 marks each)

(a) Hrs Min

3 15

+1 48

\_\_\_\_\_

(b)

Weeks Days

5 1

-3 6

\_\_\_\_\_



- 30 What is the difference between the value of 6 and the value of 4 in the numeral 24869? (03 marks)
- 31 (a) A bus which travels at a speed of 80km/hr leaves Soroti at 7:30am and arrives in Kampala at 1:30pm. What distance did the bus cover from Soroti to Kampala? (03 marks)
- (b) Express 10:30am in 24 hour clock system. (01 mark)
- 32 In a church service, there were 30% more males than females. If there were 70 females who attended the service, calculate the total number of people who attended the church service. (05 marks)



# THE PRIME END OF TERM II EXAMINATIONS 2023

## P.6 MATHEMATICS MARKING GUIDE

### SECTION A(40 MARKS)

SECTION A (40 MARKS)

NO	SOLUTION	MARKS	COMMENT		NO	SOLUTION	MARKS	COMMENT				
1	$\begin{array}{r} 06 \\ 6 \overline{) 36} \\ \underline{36} \\ 00 \\ 36 \div 6 = 6 \end{array}$	B <sub>2</sub>	Follow through		2	$\frac{1}{3} + \frac{1}{4} = \frac{4+3}{12}$ $= \frac{7}{12}$	B <sub>2</sub>	Follow through				
3		B <sub>2</sub>	Follow through		4	$\frac{3}{51} = \text{sh.}3000$ $\text{sh } 3000 \times 3$ $\text{sh. } 9000$	M <sub>1</sub> A <sub>1</sub>	Follow through				
5	$\frac{11x}{11} = \frac{121}{11}$ $x = 11$	B <sub>1</sub> B <sub>1</sub>	Follow through		6	<p>Total no. of pens 15 blue pens + 5 red pens = 20 pens Prob = <math>\frac{\text{desired chance}}{\text{total no. of items}}</math> = <math>\frac{15}{20}</math></p>	B <sub>2</sub>	For working				
7	$\text{Area} = \frac{1}{2}bh$ $\frac{1}{2} \times 10\text{cm} \times 6\text{cm}$ $= 30\text{cm}^2$	B <sub>2</sub>	Follow through		8	<p>H T O 3 9 6</p> $\begin{array}{r} 390 \\ + 10 \\ \hline 400 \end{array}$ $396 \approx 400$	B <sub>2</sub>	Follow through				
9	<table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px 10px;">thousands</td> <td style="border: 1px solid black; padding: 2px 10px;">units</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px 10px; text-align: center;">22</td> <td style="border: 1px solid black; padding: 2px 10px; text-align: center;">303</td> </tr> </table> <p>Twenty two thousand three hundred three.</p>	thousands	units	22	303	B <sub>2</sub>	Follow through		10	<p>Let the compl &lt; be p  <math>P + 49^\circ = 90^\circ</math>  <math>P + 49^\circ - 49^\circ = 90^\circ - 49^\circ</math>  <math>P = 41^\circ</math></p>	M <sub>1</sub> A <sub>1</sub>	Follow through
thousands	units											
22	303											
11	$-8 - (+2)$ $-8 - 2$ $-10$	B <sub>2</sub>	Follow through		12	$35 \div 20$ $100$ $35 \times \frac{100}{5}$ $= 700$ $35 \times 5$ $= 175 \text{ animals}$	B <sub>2</sub>	Follow through				
13	$5a^0 + 3a^0 + a^0 = 180^\circ$ $9a = 180^\circ$ $9a = 9$ $a = 20^\circ$	M <sub>1</sub> A <sub>1</sub>	Follow through		14	$(RnS)^1$	M <sub>1</sub> A <sub>1</sub>	Follow through				



15	$68 = 60 + 8$ $LXVIII$ $= LXVIII$	$B_1$ $B_1$	Follow through	16	$Speed = \frac{D}{T}$ $= 120km \div 1\frac{1}{2}h$ $= 120km \div \frac{3}{2}h$ $= 120km \times \frac{2}{3}$ $= 80km/h$	$M_1$ $A_1$	Follow through
17	Boys : girls $60 - 25$ 35 boys Ratio = $\frac{\text{boys}}{\text{Girls}}$ $= \frac{35}{25}$ $= \frac{7}{5}$ Ratio = 7 : 5	$M_1$ $A_1$	Follow through	18	$\sqrt{1\frac{36}{25}} = \sqrt{\frac{36}{25}}$ $= \frac{\sqrt{2^2 + 3^2}}{5}$ $= \frac{2 \times 3}{5}$ $= \frac{6}{5}$ $= 1\frac{1}{5}$	$B_2$	Follow through
19	sh 350 x 28 sh 9800	$B_2$	Follow through	20	1 tonne = 1000kg 7 tonnes = $(7 \times 1000)kg$ $= 7000kg$ 1 bag of cement = 50kg $50kg = \frac{1}{50} \times 7000$ $= 140$ bags of cement	$B_2$	Follow through

#### SECTION B (60 marks)

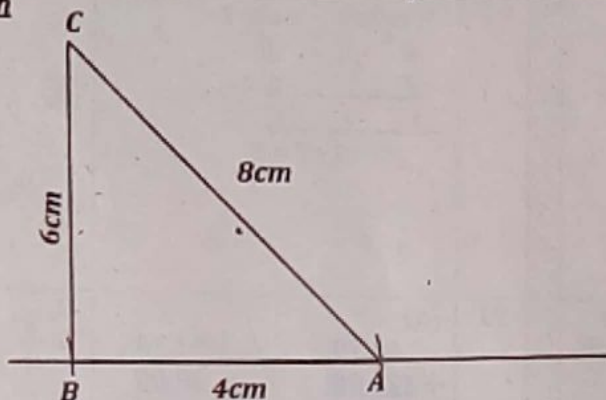
SECTION D (60 marks)

21	<p>a)</p> <p>(i) set <math>X = \{2, 3, 5, 7, 11, 13\}</math></p> <p>(ii) set <math>Y = \{3, 5, 7, 9, 11, 13\}</math></p> <p>(b) <math>(X \cap Y) = \{3, 5, 7, 11, 13\}</math></p> <p>(c) <math>n(X \cup Y) = \{2, 3, 5, 7, 9, 11, 13\}</math>  <math>n(X \cup Y) = 7</math></p>	$B_1$ $B_1$ $M_1$ $B_1$ $B_1$ $M_1$  <b>06</b>	Follow through														
22	<p>(a)(i)</p> <table border="1" data-bbox="293 1397 657 1650"> <thead> <tr> <th>mass</th> <th>frequency</th> </tr> </thead> <tbody> <tr><td>9</td><td>1</td></tr> <tr><td>10</td><td>4</td></tr> <tr><td>11</td><td>2</td></tr> <tr><td>7</td><td>1</td></tr> <tr><td>8</td><td>1</td></tr> <tr><td>12</td><td>1</td></tr> </tbody> </table> <p>modal mass = 10kg</p> <p>(ii) median</p> <p>= 7, 8, 9, 10, 10, 10, 11, 11, 12</p> <p>= <math>\frac{10 + 10}{2}</math></p> <p><math>\frac{20}{2}</math></p> <p>= 10kg</p>	mass	frequency	9	1	10	4	11	2	7	1	8	1	12	1	$B_2$  $B_1$  $M_1$  $A_1$  <b>05</b>	Follow through
mass	frequency																
9	1																
10	4																
11	2																
7	1																
8	1																
12	1																



$$\begin{aligned}
 \text{(iii) mean mass} &= \frac{\text{sum of all masses}}{\text{No of children}} \\
 &= \frac{7+8+9+(4 \times 10)+(1 \times 2)+12}{10} \\
 &= \frac{24+40+22+12}{10} \\
 &= \frac{64+34}{10} \\
 &= \frac{98}{10} \\
 &= 9.8\text{kg}
 \end{aligned}$$

23

Sketch $B_1$  $B_1$  $B_1$  $B_1$   
04Follow  
through

24

(a)  $I = P \times R \times T$ 

$$= \text{sh } 400000 \times \frac{5}{100} \times \frac{6}{12}$$

$$= \text{sh } 2000 \times 5$$

$$= \text{sh } 10,000$$

(b) Amount =  $P + I$ 

$$\text{sh } 400000$$

$$+ \text{sh } 10,000$$

$$\underline{\text{sh } 410,000}$$

(c)

$$\left( \frac{48}{10} \times \frac{3}{10} \right) \div \left( \frac{4}{10} \times \frac{9}{10} \right)$$

$$\left( \frac{12}{10} \times \frac{3}{10} \right) \times \left( \frac{10}{4} \times \frac{10}{9} \right)$$

$$\frac{4 \times 1 \times 1 \times 1}{1 \times 1 \times 1 \times 1}$$

$$= 4$$

 $B_2$ Follow  
through $B_1$  $M_1$  $A_1$  $M_2$ 

06

25

(a)

meat

$$4 \times 12500$$

$$\text{sh } 50,000 =$$

Rice

$$\frac{5}{2} \times \text{sh } 4000$$

$$\text{sh } 10,000$$

Sugar

$$500 \times 3200$$

$$1000$$

$$5 \times \text{sh } 320$$

$$\text{sh } 1600$$

total

$$\text{sh } 50000$$

$$\text{sh } 10000$$

$$\text{sh } 8400$$

$$+ \text{sh } 1600$$

$$\underline{\text{sh } 70,000}$$

$$(b) \text{ sh } 80000$$

$$- \text{sh } 70000$$

$$\underline{\text{sh } 10000}$$

 $B_1$  $M_1$  $A_1$  $M_1$  $A_1$   
06Follow  
through

26

$$(a) X = \{2_L, 3_L, 3_2\}$$

$$= 2 \times 3 \times 3$$

$$= 18$$

(b)

$$Y = \{2_L, 3_L, 2_2, 5_1\}$$

$$= 2 \times 2 \times 3 \times 5$$

$$= 60$$

 $B_2$  $B_1$  $M_1$  $A_1$ 

27

(a)

$$\text{AP } 0043399$$

$$- \text{AP } 0043300$$

$$0000000099 + 1$$

$$= \underline{100 \text{ notes}}$$

	(c) LCM = { 21, 22, 31, 32, 51} = 2 x 2 x 3 x 3 x 5 = 180	M <sub>2</sub> <b>06</b>			(b) 1 note = sh 10000 100 nts = sh 10,000 x 100 sh = <u>1,000,000</u>								
28	(a) (i) a = -3 (ii) b = +7 (iii) c = +4  (b) a + b = c / -3 + +7 = +4	B <sub>1</sub>  B <sub>1</sub>  B <sub>1</sub>  A <sub>1</sub> <b>04</b>	Follow through	29	(a) Hrs          Min 3              15 + 1            48 5              03  (b) Weeks        days 5 <sup>4</sup> 1 - 3              6 1              2 1 + 7 = 8	B <sub>1</sub>  A <sub>1</sub>  M <sub>1</sub>  A <sub>1</sub> <b>04</b>	Follow through						
30	2 4 8 6 9            6 x 10 = 60  4 x 1000 = 4000 Difference 34000 - 60 3940	B <sub>1</sub>  B <sub>1</sub>  B <sub>1</sub>  <b>03</b>	Follow through	31	(a) 1 : 30          7 : 30 + 12 : 00      + 00 : 00 13 : 30h      07 : 30 duration 13 : 30 hour - 07 : 30 hour 6 : 00 = 6 hour Speed = 80km/h Time = 6hour Distance = S x T = 80km x 6h h = 480km  (b) 10 : 30am - 10 30 hrs	B <sub>1</sub>  A <sub>1</sub>  M <sub>1</sub>  A <sub>1</sub>  A <sub>1</sub>  <b>05</b>	Follow through						
32	<table border="1"> <tr> <th>Males</th> <th>Females</th> <th>Total %</th> </tr> <tr> <td>K + 30%</td> <td>K</td> <td>100%</td> </tr> </table> k + 30% + k = 100% 2k + 30% = 100% 2k + 30% - 30% = 100% - 30% 2k = 70% 2        2 K = 35% 35% = 70 1% = 70 35	Males	Females	Total %	K + 30%	K	100%	2 70 x 100 35 = 2 x 100 = 200 people				B <sub>1</sub>  A <sub>1</sub>  M <sub>1</sub>  A <sub>1</sub>  A <sub>1</sub>  <b>05</b>	Follow through
Males	Females	Total %											
K + 30%	K	100%											