THE PRIME EXAMINATIONS 2024

P.6 BEGINNING OF TERM III

MATHEMATICS (New Curriculum)

Time allocated 2 hours 30 minutes

TS copy.

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"

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		

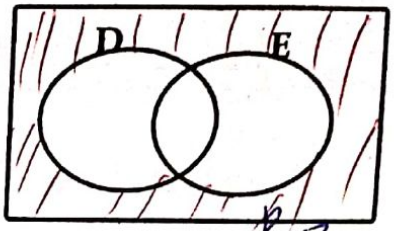
APPROVED

Consultant

Mathematics Department (PEC)

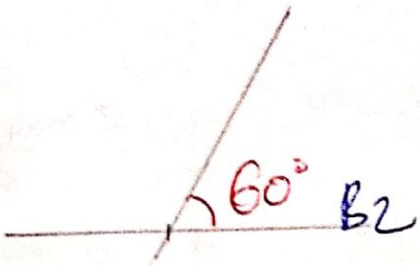
Turn Over

Section A (40 Marks)

1	Fill in the empty gap correctly. 405 = 4 hundreds + 0 tens + 5 ones B2	2	Shade(DUE) complement.  B2
3	Write in ~~figures~~ words: 72906 Seventy two thousand nine hundred six B2	4	Write 0.25 as a common fraction in its lowest term. 0.25 = 25/100 my = 1/4 A
5	Simplify: 2k + 6p + 3k + 10p 2k + 6p + 3k + 10p. 2k + 3k + 6p + 10p my 5k + 16p A	6	Find the next number in the sequence. 13, 15, 18, 23, 30, 41 A +2 +3 +5 +7 +11 my
7	Five pens cost sh.3000. Find the number of pens Joshua could get if he had sh.4200. sh.3000 / 5 = sh.600 my sh.4200 / sh.600 = 7 pens A	8	Find the number of members in a set with 16 subsets. $2^n = 16$ my $2^n = 2^4$ n = 4 elements. A
9.	Kana slept at 10:40pm. Write this time in 24hr clock. 10 40 my +12 00 22 40 hours. A		

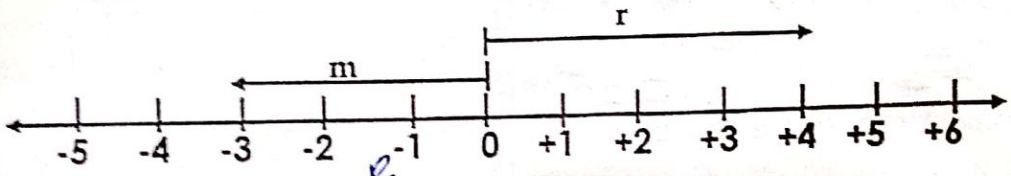
18

10 Draw an angle of 60° in the space below.



B2

11 Write the integers represented by letters r and m.



(i) arrow m = -3 B

(ii) arrow r = +4 B

12 Write the following expression as a single number.

$8^2 + 9^0 \times 6^2$

$(8 \times 8) + (1 \times 6 \times 6)$ M

$64 + 36$

$= 100$ A

13 Write CXCV in Hindu - Arabic numerals.

C × C V

100 + 90 + 5 M

195 A

14 In a certain school, there were 600 pupils last year. This year, the number has been increased by $12\frac{1}{3}$%. Find the new number of pupils in the school.

$\frac{12\frac{1}{3} \times 600}{100}$

$\frac{37}{3_1} \times 6^2$

37×2

Increment = 74 pupils M

600 pupils

+ 74 pupils

674 pupils

15 On a line of boys and only one girl, the girl is standing on the 12th position from either side of the line. Find the total number of all the pupils on the line.

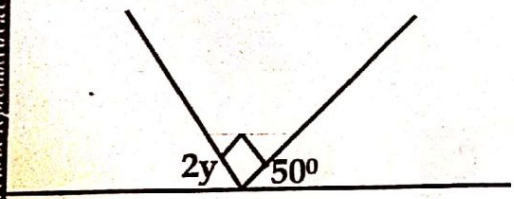
$(12 \times 2) - 1$ M

$= 24 - 1$

$= 23$ pupils A

12

16 **Find the value of y in the diagram below.**



$2y + 90° + 50° = 180°$.
$2y + 140° = 180°$.
$2y + 140 - 140 = 180° - 140°$
$\frac{2y}{2} = \frac{40°}{2}$
$y = 20°$.

17 Eight men can do a piece of work in 12 days. How many men can do the same work in six (6) days?

8men × 12 days
6 days.
8men × 2.
= 16men.

18 **Workout the square root of 196.**

2 | 196
2 | 98
7 | 49
7 | 7
1

$\sqrt{196} = \sqrt{(2\times2)\times(7\times7)}$
$\sqrt{196} = 2\times7$
$= 14$.

19 Find the median of 20, 70, 32, 65, 48

20, 32, 48, 65, 70
Median = 48

20 The perimeter of a square is 40m. Find the area of the square.

$4s = P$.
$\frac{4s}{4} = \frac{40m}{4}$
side = 10m.

Area = side × side.
= 10m × 10m
= $100m^2$.

Section B (60 marks)

21 (a) **Workout:** $\frac{0.06 + 0.3}{0.09}$ **(02 marks)**

0.06
+0.3
0.36

$0.36 \div 0.09$.
$\frac{36}{100} \div \frac{9}{100}$
$\frac{36}{100} \times \frac{100}{9}$

$\frac{4\times1}{1\times1}$
$= \frac{4}{1}$
$= 4$.

(b) Change $\frac{3}{4}$ to decimal. **(03 marks)**

4 | 3.00 → 0.75
7 × 4 = 28
20
5 × 4 = 20

$\frac{3}{4} = 0.75$

05

22 Jamal deposited sh.800,000 in a commercial bank at a rate of 10% per annum. Calculate the total amount he found on his account after 9 months. **(05 marks)**

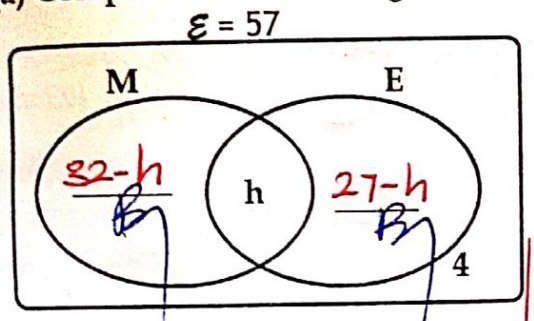
SI = PXRXT.
= sh. 800,000 × 10/100 × 9/12 M1
SI = Sh. 20000 × 3 M1
= sh. 60,000 A

Amount = Principal + Interest.
= sh. 800,000 M1
+ Sh. 60,000
Sh. 860000 A

05

23 **In a class of 57 pupils, 32 like Maths(M), 27 like English(E), h pupils like both subjects while 4 pupils like other subjects.**

(a) Complete the Venn diagram below. **(02 marks)**



B B

(b) Find the value of h. **(02 marks)**

h = (32 + 27 + 4) = 57. M1
h = 63 − 57
h = 6 A

32 − h + h + 27 − h + 4 = 57.
− h + 32 + 27 + 4 = 57.
− h + 63 = 57.
− h + 63 − 63 = 57 − 63.
−h/−1 = −6/−1
h = 6.

(c) Find the probability of picking a pupil at random who does not like English. **(02 marks)**

(32 − h) + 4.
(32 − 6) + 4
26 + 4 M1
= 30

Prob = 30/57 A

06

24 The table below shows marks obtained by pupils of P.6 in their E.O.T two exams.

Marks	40	30	75	60
Frequency	2	4	2	2

(a) Workout the average mark. **(02 marks)**

Average = Σ o i / N o. f.
= (40 × 2) + (30 × 4) + (75 × 2) + (60 × 2) / 2 + 4 + 2 + 2 M1
= 80 + 120 + 150 + 120 / 10.
= 470 / 10 = 47 marks A

13

02

(a) Find the range of the marks. (02 marks)

Range = H - L.
= 75 M
-30
45 marks A

02

25 (a) Solve: 2k + 7 = 19 (02 marks)

2k + 7 = 19.
2k + 7 - 7 = 19 - 7 M
2k/2 = 12/2
k = 6. A

(b) Given that a = 4, b = 3 and c = 2. Find the value of 3ba - 5c (03 marks)

3ba - 5c.
(3 x 3 x 4) - (5 x 2) M
36 - 10 M
= 26. A

05

26 The sum of three consecutive odd numbers is 39. Find all the numbers. (05 marks)

y + y+2 + y+4 = 39. M
3y + 6 = 39.
3y + 6 - 6 = 39 - 6
3y/3 = 33/3
y = 11. A

1st: y = 11 M
2nd = y+2 = 11+2
= 13 M
3rd = y+4 = 11+4
= 15. M
Numbers are 11, 13 and 15 A

05

27 (a) Change 113_{five} to decimal base. (02 marks)

ff	f	0
1	1	3

(1 x 5 x 5) + (1 x 5) + (3 x 1) M
25 + 5 + 3
30 + 3
= 33_{ten}. A

(b) Workout: 104_{five} - 33_{five} = 21_{five} (02 marks)

104_{five} M
-33_{five}
21_{five} A

16

04

(c) What is the place value of 2 in 213_{five}? **(01 mark)**

ff	f	u
2	1	3

↳ five fives

28 Three boys; Bosco, Jude and Abdu shared sh.108000 among themselves in the ratio 2: 3: 5 respectively.

(a) How much did each get? **(03 marks)**

Total ratio.
= 2+3+5 = 10.

Bosco
$\frac{2}{10}$ x sh. 108,000
= 2 x sh. 10800
= sh. 21600

Jude.
$\frac{3}{10}$ x sh 108000
3 x sh. 10800
= sh. 32400

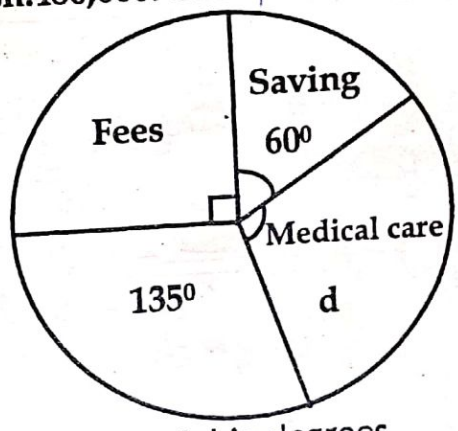
Abdu.
$\frac{5}{10}$ x sh. 108000
= sh. 54000

(b) How much more did Abdu get than Jude? **(02 marks)**

sh. 54,000
- sh. 32400
sh. 21,600

05

29 The pie chart below shows how Mukulu Kwagala spends his monthly salary of sh.480,000. Use it to answer the questions.



(a) Find the value of d in degrees.

d + 60° + 90° + 135° = 360°.
d + 285° = 360°
d + 285° - 285° = 360° - 285°.
d = 75°.

d = 360° - (60° + 90° + 135°).
d = 360° - 285° **(02 marks)**
d = 75°

(b) How much more money does he spend on food than on medical care? **(03 marks)**

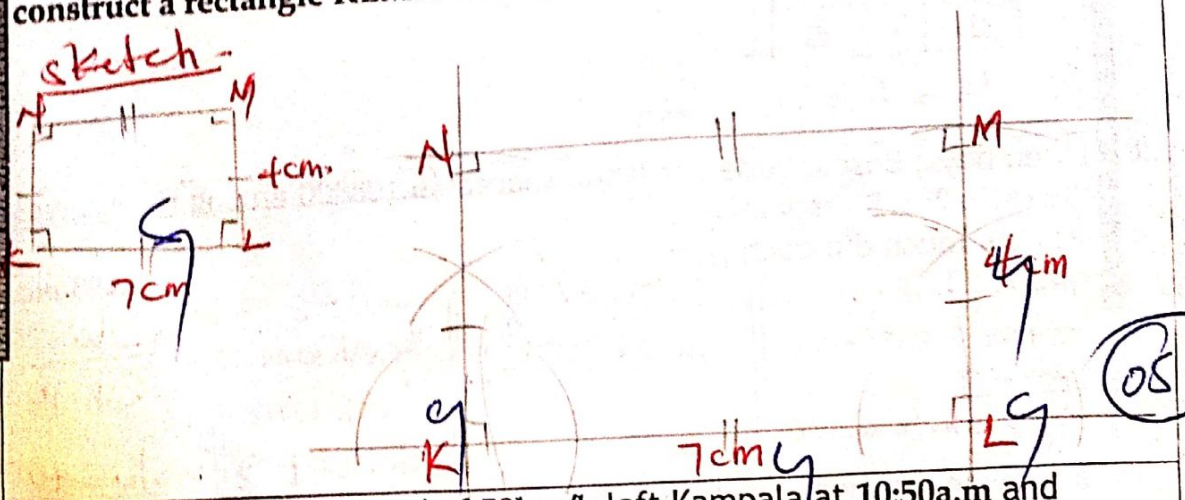
Difference in degrees.
90° - 75° = 15°

$\frac{160°}{360°}$ x sh. 480000
$\frac{1}{6}$
= sh. 80000

05

30 **With the help of a ruler, a sharp pencil and a pair of compasses only, construct a rectangle KLMN where $\overline{KL}$ = 7cm and $\overline{LM}$ = 4cm.** *(05 marks)*

sketch



05

31 A taxi travelling at a speed of 50km/h left Kampala at 10:50a.m and reached Mbale at 3:20p.m.

(a) How much time did the taxi take to cover the journey? *(03 marks)*

3:20
+12 00
15 20 hrs

15 20 hrs
−10 50
4 30 hrs
= 4hrs 30 min.
= 4½ hrs

(b) Calculate the distance between Kampala and Mbale. *(02 marks)*

Distance = S × T.
= 50km/h × 4½ h
= 25 × 9 km
= 225 km

05

32 **Study the exchange rates below and use them to answer the questions that follow.**

Ksh.1 costs Ush.27
US $ 1 costs Ush.3600

(a) Convert US$ 340 to Ugandan shillings. *(02 marks)*

Ush. 3600 × 340
= Ush. 1,224,000

(b) Convert Ksh. 216000 to United States dollars ($). *(03 marks)*

Ksh. 216000 × 27
= Ush. 5,832,000

Ush. 5,832,000
Ush. 3600
= US $ 1620

05

05