EAGLE EXAMINATION BOARD

PRIMARY SEVEN MOCK EXAMINATION 2023

MATHEMATICS

Time Allowed: 2 HOURS 30 MINUTES

Index No.

Random No.						Personal No.		

Pupil's Name: ……

School Name: ……..

Read the following instructions carefully:

FOR EXAMINER'S USEONLY

The paper has **two** sections: **A** and **B**

1. Section **A** has 20 short questions (40 marks)
2. Section **B** has 12 questions (60 marks)
3. Answer **ALL** questions. All answers to both Sections A and B must be written in the spaces provided.
4. All answers must be written using a blue or black ball point pen or ink. Diagrams should be drawn in pencil.
5. Unnecessary alteration of work may lead to loss of marks.
6. Any handwriting that cannot be easily read may lead to loss of marks.
7. Do **NOT** fill anything in the ***boxes indicated for Examiner's use only***.

FOR EXAMINER'S USE ONLY		
Qn. No	**MARK**	**SIGN**
1 – 10		
11 – 20		
21 – 30		
31 – 32		
TOTAL		

SECTION A

1. Simplify: **8m + n + m**

2. Express 97 as Roman Numerals

3. Work out $\frac{5}{6} + \frac{1}{3}$

4. Given that ***a* = ¯2, *b* = *3*** and **c = 4**. Find the value of **b (a^2 + c).**

5. Given that W = {c, o, m, p, a} = {m, o, p, e, l}. List all the subsets in **W∩M.**

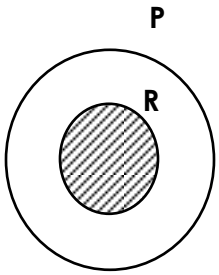
6. Write 369,046 in words.

……..……
……

7. The cost of one book is sh. 400. Find the cost of 3 dozen of books.

8. Using a ruler and a pair of compasses only, construct an angle of 30^0.

9. Describe the unshaded part in the Venn diagram below.



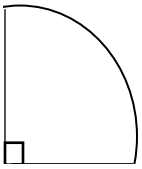
10. The complement of $2r - 20^0$ is 40^0. Find the size of the larger angle.

11. Work out: $^{-}4 - {}^{+}5$

12. Find the median of 24, 16, 25, 33, 20 and 15.

13. The sum of two numbers is 7 and their difference is 1. Find the two numbers.

14. Find the distance around the figure below.

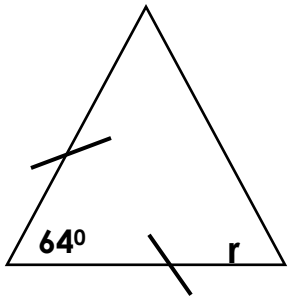


14m

Take pie as $\frac{31}{7}$

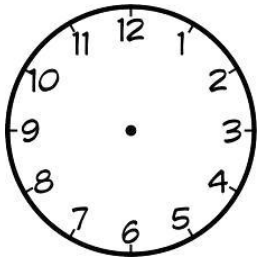
15. Ann had 12 pens she gave 4 of them to her friends. Later the mother gave her 2 more pens, then Ann shared the pens equally between 2 pupils. How many pens did each pupil get?

16. Find the value of **r** in the figure below.



17. Express 5400 square meters as hectares.

18. Use the clock face below to show a quarter to 5 O'clock.



19. Otim used 15litres of oil. This was $\frac{1}{3}$ of what he had. How many litres of oil did he have at first?

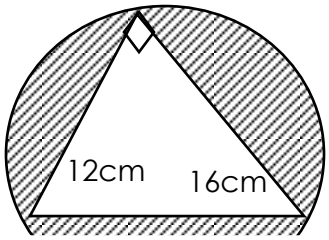
20. A meeting started at 12:20pm and ended at 4:30pm. How long was the meeting?

SECTION B: 60 MARKS

Answer all the questions in this section.

Marks for each question are indicated in brackets.

21. The diagram below is made up of a semicircle and right angled triangle. Use it to answer the questions that follow.



a) Find the length of the diameter of the semicircle.

(02marks)

b) Calculate the perimeter of the shaded part. (Take π as 3.14)
(03marks)

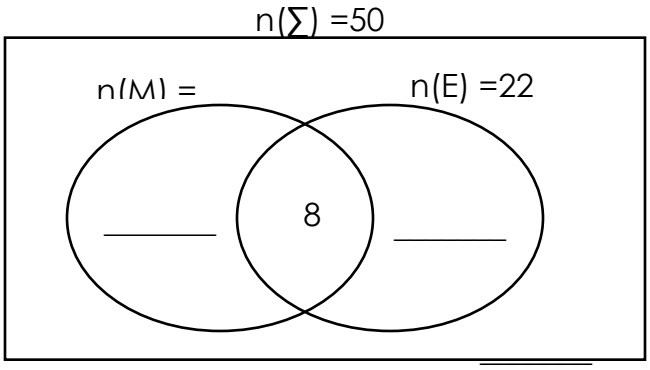
22. a) Write 523.4 in standard form. (02marks)

b) Solve: $2^n \times 8 = 64$ (03marks)

23. In a class of 50 pupils, 8 pupils passed both Maths and English, 22 passed English, (y + 8) pupils passed Maths only while (y – 2) passed neither.

a) Use the above information to complete the venn diagram below.

(03marks)



b) Find how many pupils passed Mathematics.

(03marks)

24. The table below shows number of pupils in a P7 class who were absent during the week. Use it to answer the questions that follow.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of pupils	10	5	20	15	10

a) If health workers visited the school for vaccination, which day had more pupils vaccinated? (01mark)

b) If the class had a total of 70 pupils, find the average number of pupils who attended that week. (03marks)

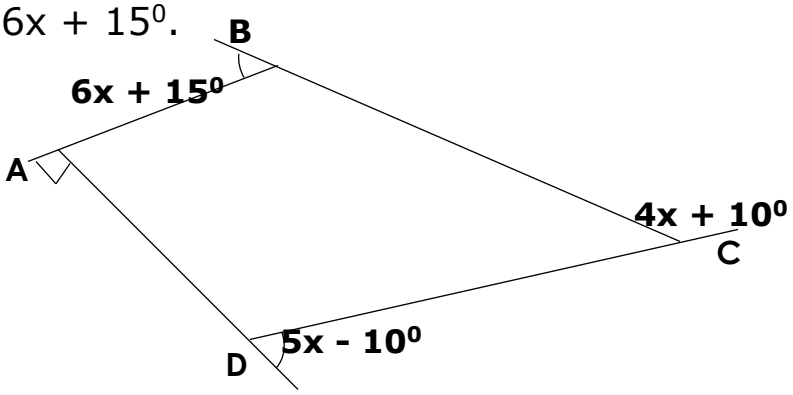
25. At a certain school, $\frac{5}{8}$ are girls? One day, all boys came to school and $\frac{4}{5}$ of the girls were absent.

a) What fraction of the school was present? (03marks)

b) If 200 pupils were present that day, what is the enrolment of the school?

(02marks)

26. The exterior angles of the given figure are 90^0, $3x + 10^0$, $5x - 50$ and $6x + 15^0$.



a) Find the value of X. (03marks)

b) What is the size of angle BCD? (02marks)

27. Mutesi went for shopping and bought the following;

2 bars of soap for sh. 13,000 (01mark)

3kgs of sugar for sh. 4,500 per kg

6 apples at sh. 2500 for 3 apples

a) Find the cost of apples.

b) Work out the total cost of all the items.

(02marks)

c) If Mutesa has sh. 50,000, what was her change? (02marks)

28. a) A water melon weighs 17kg. A mother cut it into three pieces. When she weighted the pieces, one piece weighs 2kg lighter than the largest piece and 6kg heavier than the smallest piece. Find the mass of the smallest piece. (03marks)

b) Solve: $-3p<12$

29. a) Using a pair of compasses, a ruler and a pencil only, construct a quadrilateral ABCD where AB = 3.6cm, BC = 5.1CM, CD = 4.8cm and AD = 3CM.

b) Measure diagonal AC.

30. a) Work out: $\frac{\mathbf{2.2\ x\ 0.45}}{\mathbf{0.5\ x\ 0.6}}$ (03marks)

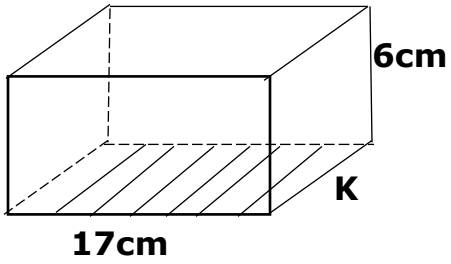
b) Change $\frac{3}{5}$ to decimal number. (02marks)

31. A motorist drove for 3 hours at an average speed of 90km/h. he then travelled at an average speed of 70km/h for 2hours.

a) Find the average speed of the motorist for whole journey. (03marks)

b) If one litre of fuel covers 20km, how many fuel did the motorist use for the first journey? (02marks)

32. The volume of the cuboid below is **$918cm^3$**. Find the area of the shaded part. (05marks)



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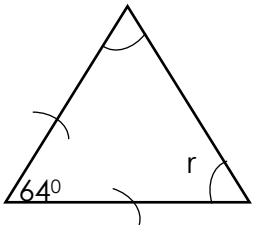
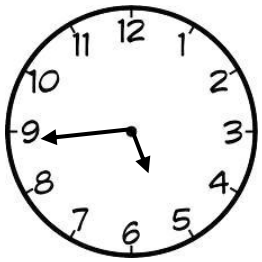
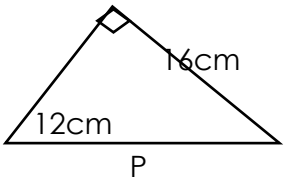
EAGLE EXAMINATIONBOARD

PRE-MOCK MATHEMATICS - MARKING GUIDE

1.	8m + n + m 8m + m + n 9m + n	B_2	for the correct response
2.	90 + 7 ↓ ↓ XC VII 97 = XCVII	M_1 A_1	for the correct working for the correct response
3.	$\frac{5}{6} + \frac{1}{3} = \frac{5+2}{6}$ $= \frac{7}{6}$ $= 1\frac{1}{6}$	M_1 A_1	for the correct working for the correct response
4.	$b(a^2 + c) = 3(-2^2 + 4)$ $3(-2^2 + 4) = 3(4 + 4)$ $= 3(8)$ $= 24$	M_1 A_1	for the correct substitution for the correct answer
5.	W = {c, o, m, p, a} M = {m, o, p, e, l} W∩M = {m, o, p} {m, o, p}, {m, o}, {m, p}, {o, p}, {m}, {o}, {p}, { }	 B_1 B_1	for the intersection set. for the subsets correctly listed
6.	THOUSANDS | UNITS 369 | 046	M_1	for the correct working

	Three hundred sixty – nine thousand, forty – six	A_1	for the correct response
7.	1 dozen = 12 books 3 dozens = 12 x 3 = 36 books 1 book costs sh. 400 36 books cost 400 x 36 Sh. 14,400	 B_1 B_1	 For no. of books in 3 dozen For the cost of 36 books
8.			
9.	(P∩R)′ or P only	B_2	
10.	$2r - 20^0 + 40^0 = 90^0$ $2r + 20^0 = 90^0$ $2r + 20^0 - 20^0 = 90^0 - 20^0$ $\frac{2r}{2} = \frac{70}{2}$ 35^0 $r = 35^0$ The larger angle is $90^0 - 40^0$ 50^0	 B_1 B_1	 For the value of r For the size of the bigger angle
11.	- 4 – (+5) = - 4 – 5 = - 9	M_1 A_1	
12.	15, 16, 20, 24, 25, 33 $\frac{20 + 24}{2} = \frac{44}{2}$	M_1 A_1	

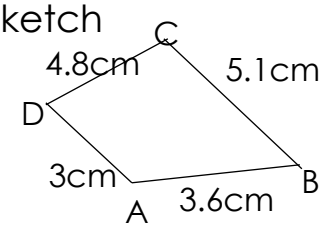
	= 22		
3.	Let one of the numbers be m the second no. be (7 – m) m – (7 – m) = 1 m – 7 + m = 1 2m – 7 = 1 2m – 7 + 7 = 1 + 7 $\frac{2m}{2} = \frac{8}{2}$ ⁴ | 7 – 4 = 3 m = 4. The numbers are 3 and 4	B_1 B_1	For the correct working and response For the correct numbers.
4.	Perimeter = $\frac{1}{4}\pi D + D$ $\frac{1}{4} \times \frac{22}{7} \times 28m + 28m$ 22m+ 28m 50m	M_1 A_1	For the correct working For the correct response
5.	12 – 4 = 8 8 + 2 = 10 10 ÷ 2 = 5 Each pupil got 5 pens	M_1 A_1	For correctly carrying out the operations For the correct response
6.	 $r + r + 64^0 = 180^0$ $2r + 64^0 = 180^0$ $2r + 64^0 - 64^0 = 180^0 - 64^0$ $\frac{2r}{2} = \frac{116^0}{2}$	M_1 A_1	For forming the correct equation For the correct response

	r = 58^0		
17.	10,000m^2 = 1 hectare 5400m^2 = $\frac{5400}{10000}$ = 0.54 hectares	M_1 A_1	For the correct working For the correct response
18.		B_1 B_1	For the minute hand For the hour hand slightly before 5
19.	Let the no. of litres be k. $\frac{1}{3}$ k = 15 K = 15 x 3 K = 45 litres	M_1 A_1	
20.	Start 12 : 20pm = 12 20hours End 4 : 30pm = 16 30hours H Min 16 30 - 12 20 4 10 4 hours and 10 minutes.	M_1 A_1	
	SECTION: B		
21a)	 $P^2 = 12^2 + 16^2$	M_1	

	$P^2 = 144 + 256$ $\sqrt{p^2} = \sqrt{400}$ P = 20cm	A_1	
b)	$\frac{1}{2}\pi D + 12cm + 16cm$ $\frac{1}{2} \times 3.14 \times 20cm + 28cm$ (31.4 + 28)cm 59.4cm 59.4cm 31.4cm + 28.0cm	M_1 A_1	
22a)	523.4 ÷ 10 = 52.34 52.34 ÷ 10 = 5.234 5.234×10^2	M_1 A_1	
b)	$2^n \times 8 = 64$ $2^n \times 2^3 = 2^6$ $2^{n+3} = 2^6$ n + 3 = 6 n + 3 – 3 = 6 – 3 n = 3 2 | 64 2 | 32 2 | 16 2 | 8 2 | 4 2 | 2 $=2^6$	M_1 M_1 A_1	For prime factorizing 64 correctly For forming the correct equation For the correct response
23a)	n(∑) =50 n(M) = n(E) =22 (y+8) 8 14 Y – 2	B_1 B_1 B_1	For correctly entering (y+8) For 14 correctly entered For correctly entering y – 2

b)	Y+8+8+14+y-2 = 50 2y+16+14 – 2 = 50 2y + 28 = 50 2y+28 – 28 = 50 – 28 $\frac{2y}{2} = \frac{22}{2}$ (11) Y = 11 n(Mathematics) = 11 + 8 + 8 = 27	B_1 B_1	For correct working and value of y For the correct response
24a)	Tuesday	B_1	
b)	$\frac{60+65+50+45+60}{5}$ $\frac{280}{5} = 56$ 56	M_1 M_1 A_1	For adding correctly For correctly dividing For the correct answer
25a)	Fraction of boys $\frac{8}{8} - \frac{5}{8} = \frac{3}{8}$ Fraction of girls present $\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$ $\frac{1}{5} \times \frac{5}{8} = \frac{1}{8}$ Total fraction present $\frac{3}{8} - \frac{1}{8} = \frac{4}{8}$ (1, 2) $= \frac{1}{2}$	B_1 B_1 B_1	For the correct fraction of boys For the correct fraction of girls present For the total fraction present

b)	$\frac{1}{2}$ rep 200 $\frac{2}{2}$ parts rep (200 x 2) = 400 pupils	M_1 A_1	
26a)	$6x+15^0+5x-10^0+4x10^0+90^0 = 360^0$ $6x+5x+4x+90^0+15^0+10^0 = 360^0$ $15x + 105^0 = 360^0$ $15x+105^0 – 105^0 = 360^0 - 105^0$ $\frac{\cancel{15}x}{\cancel{15}} = \frac{\cancel{255}^{17}}{\cancel{15}}$ $X = 17^0$	M_1 M_1 A_1	For forming the correct equation For collecting like terms For the correct value of x
b)	Angle BCD $180^0 – (4x + 10^0)$ $180^0 – (4x17+10^0)$ $180^0 – 78^0$ 102^0	M_1 A_1	For correct substitution and subtraction For the correct response
27a)	Cost of apples $\frac{2500}{\cancel{3}} \times \cancel{6}^2$ = sh. 5,000	B_1	For the correct cost of apples
b)	Sugar sh. 4500 X 3 Sh. 13,500 Total sh. 13500 sh. 13000	B_1	For the cost of sugar

	+sh. 5000 sh. 31,500	B_1	For the correct total
c)	sh. 50,000 - sh. 31,500 sh. 18,500	M_1 A_1	For the correct working For the correct response
28a)	Let the smallest piece weigh gkg the lighter piece weigh (g+6)kg the heavier piece weigh (g+2+6)kg. But g+g+6+g+2+6 = 17 3g +14 = 17 3g + 14 – 14 = 17 – 14 3g = 3 3 3 g = 1kg The smallest piece weighs 1kg	 M_1 M_1 A_1	 For forming the correct equation For collecting like terms correctly For the correct response
b)	-3p < 12 -3p>12 -3 -3 P > - 4	M_1 A_1	For change of sign and dividing both sides by -3 For the correct answer
29	Sketch  	S_1 L_1 L_1 L_1 L_1	For the correct sketch For AB For BC For CD For DA

a)	$\frac{2.2 \times 0.45}{0.5 \times 0.6}$ $\left(\frac{22}{10} x \frac{45}{100}\right) \div \left(\frac{5}{10} x \frac{6}{10}\right)$ $\frac{22}{10} x \frac{45}{100} x \frac{10}{5} x \frac{10}{6}$ $\frac{33}{10} = 3.3$	M_1 M_1 A_1	
b)	0.6 $5\overline{)30}$ $6x5\ \underline{-30}$ $\frac{3}{5} = 0.6$	M_1 A_1	For the correct working For the correct answer
31a)	$\frac{90km}{h} \times 3h = 270km$ $\frac{70km}{h} \times 2h = \frac{140km}{}$ total 410km $\frac{410}{5} = 82km/h$	B_1 B_1 B_1	For 270km For 410km For the correct working and answer
b)	20km 1litre 1km $\frac{1}{20}$litre 410 $1 \times 410^{20\frac{1}{2}}$ 20 410km requires $20\frac{1}{2}$ litres	M_1 A_1	For the correct works For the correct response
32a)	Volume = L x w x h L x w x h = 17cm x k x 6cm 17 x 6 x k = 918 $\frac{102k}{102} = \frac{918}{102}$ 9 K = 9cm Shaded part Area = 17cm x 9cm = $153cm^2$	M_1 M_1 A_1 M_1 A_1	For forming the correct equation For dividing both sides by 102 For the correct value of k For the correct working For the correct answer