

R BROAD EXAMINATIONS®

P.7 MATHEMATICS EXAMINATION PRE - PLE TRIAL SET I 2023

Time allowed: 2 hours 15 minutes.

Random No.	Personal No.

Candidate's Name:

Candidate's Signature:

District Name:

Read the following instructions carefully:

1. This paper is made up of two sections: A and B.
2. Section A has **20** questions (**40 Marks**)
3. Section B has **12** questions (**60 Marks**)
4. Answer **ALL** questions in both sections A and B.
5. All answers must be written in the space provided in blue or black ball point pens and ink. **Only diagrams should be done in pencil.**
6. Unnecessary crossing of answers will lead to loss of marks.
7. Any handwriting, which cannot be easily read, may lead to loss of marks.
8. Do **not** fill anything in the boxes indicated for Examiners' use only.

FOR EXAMINERS' USE ONLY		
PAGES	MARKS	SIGN
Page 2		
Page 3		
Page 4		
Page 5		
Page 6		
Page 7		
Page 8		
TOTAL		

Teacher's comment to the learner

Approved by:

Team Head Mathematics Department

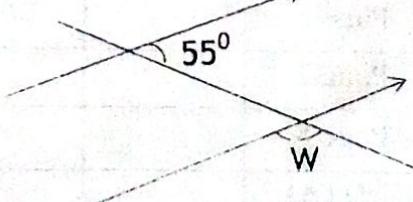
PLE REVISION TIPS

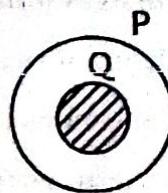
In groups of fives, revise with your friends simple work from P.4 class.

Read about:

- 3-Dimensional figures and their properties
- Addition and subtraction of time
- Tally marks under data handling
- 4 by 4 magic squares and magic triangles

SECTION .A. (40 Marks)

1. Add: $43 + 16$	2. Change 13_{five} to base ten.
3. Work out the LCM of 12 and 15	4. Find the range of 3, 7, 8, 5 and 6.
5. A trader sold a dozen picfare books at sh.1200 each book. How much money did the trader get after selling the books?	6. Describe the shaded region in the figure below.
7. In the diagram below, find the size of the angle marked W.	8. What number is increased by 10% to become 22?
	
9. A driver drove his car at a speed of 20 miles every second. What was his speed in km/h?	10. Solve: $m + 3 = 1 \pmod{7}$

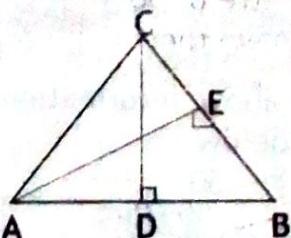


9. A driver drove his car at a speed of 20 miles every second. What was his speed in km/h?

10. Solve: $m + 3 = 1 \pmod{7}$

1. Simplify: $3x - (x + 4)$

12. In the diagram below, $AB = 8\text{cm}$, $BC = 12\text{cm}$ and $AC = 10\text{cm}$.



Find the length DC.

13. Write the time 3.50pm in 24 hour clock system.

14. Round off 18.87 to the nearest whole number.

15. If $y = x - 3$, complete the table below.

x	3	0	—
y	6	—	4

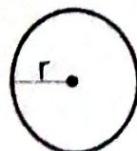
16. Using a ruler, a pencil and a pair of compasses only, construct an angle of 15° .

17. Express 14 as a product of its prime factors.

18. Set $G = \{2, 0, 5, 9, 7\}$. Find the number of proper subsets in set G.

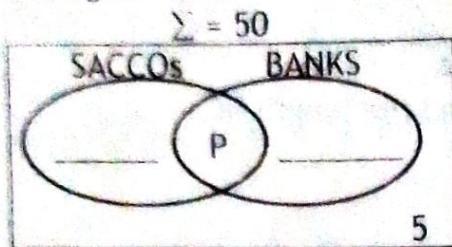
19. Given that $\frac{2}{3}$ of a kilo of maize flour costs sh.1600, find the cost of 4kg of maize flour at the same rate.

20. The diagram below is a circular end of a cylindrical tin whose circumference is 88 metres. Find its radius.



SECTION .B. (60 Marks)

- 21 In a trading centre of 50 traders, 32 have accounts in SACCOs (S), 34 have them in Banks (B), some (P) have them in both institutions while 5 do not have accounts at all. Represent the above information in the venn diagram below.



(b) How many traders have accounts in both institutions?

- 22 If a trader is selected at random to be a business representative, find the probability of choosing one who has an account in SACCOs only.

(05 Marks)

22. (a) Work out: $1 \ 1 \ 0_{\text{two}}$
 $- 1 \ 1_{\text{two}}$

(b) If $102_p = 201_{\text{five}}$, find the unknown base p.

- 23 Study the exchange rates below and answer the questions that follow;

(05 Marks)

1 United States dollar (US\$1) = Ugsh.3500

1 Kenya shilling (Ksh.1) = Ugsh.30

1 British pound Sterling (£.1) = Ugsh.4000

- (b) A man has 330 US dollars and Ksh.5500. How much money in Uganda shillings does he have altogether?

(b) A phone costs Ugsh.640,000. Find its cost in pounds.

(05 Marks)

24 The number of pupils in P.1, P.2, P.3 and P.4 at Excel Junior School are 66, 54, 72 and 48 respectively.

Which class has the least number of pupils?

(b) How many more pupils are there in P.3 than in P.1?

(c) Work out the average number of pupils in the four classes.

(05 Marks)

25 (a) Using a ruler, a pencil and a pair of compasses only, construct a triangle PLE where line PL = 7cm, angle PLE = 75° and angle EPL = 45°

Measure line LE.

(05 Marks)

(a) Work out $4.36 - 2.9$

(b) Simplify $7 \cdot 12 \cdot 12 \cdot 6 \cdot 3$

(05 Marks)

- 27 Today, Monday 14th September, teachers at Pole pole Primary School have received their salaries. They will receive their next salary after 30 days. On which day and date will they receive their next salary?

(04 Marks)

28 Solve;

(a) $3a - 5 = 19$

(b) $5k - 3 = k + 5$

(05 Marks)

29 A water tank is 80cm long, 60cm wide and 90cm high.

(a) Find its volume.

(b) How much water does it hold when it is $\frac{5}{9}$ full?

(05 Marks)

Sarah, Susan, Barbra and Monius have an average age of 22 years. Sarah is n years old, Susan is 5 years older than Sarah, Barbra is 19 years old and Monius is $n+4$ years old. Find the value of n .

(b) Find Susan's age.



ANSWER

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15

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(05 Marks)

A motorist left town K at 8:30am at a speed of 35km/h. After a 2 hour drive, the car got a problem which took him 30 minutes to solve. He then continued to town L at a speed of 40km/h reaching town L at 12:15pm. He immediately returned to town K at a constant speed of 96km/h.

How far is town L from town K?

(b)

Calculate the average speed of the motorist for the whole journey.

ANSWER

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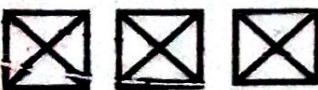
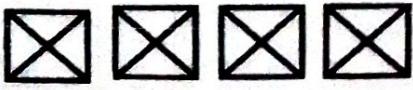
1340

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32. The pictograph below shows the number of boxes of books received by UPE Schools in a Sub county.

SCHOOL	NO. OF BOXES.
Ntusi	
Nzozi	
Busega	
Bitaabo	

Given that  represents 24 books and  represents 12 books,

Find the number of books Busega Primary School received.

(b)

How many more books did Ntusi get than Bitaabo Primary School?

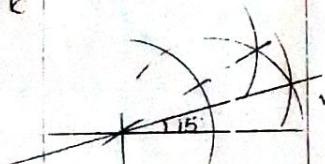
1) Work out the total number of books the four schools received.

END

(06 Marks)

BROAD EXAMINATIONS GUIDES
P.7 MATHEMATICS PRE-PLE TRIAL SET I TERM III 2023

Qn.	Class	Solution	Marks	Comments	Qn.	Class	Solution	Marks	Comments
1	P1	$\frac{43}{+ 16}$ <u>59</u>			8	P6	let the no. be n , $11x7 + 11y7 = 11x7$, $11x7 \times 7 = 22M1$ $11x7 \times 7 = 22x7$		
2	P5	$(1 \times 5^{\circ}) + (3 \times 5^{\circ})v$ $1 \times 5 + 3 \times 1$ $5 + 3$ <u>8</u> v	M1	for expanding					for correct method
3	P4	$\begin{array}{ c c c } \hline & 2 & 12 \\ \hline & 2 & 15 \\ \hline & 3 & 15 \\ \hline & 5 & 5 \\ \hline & 1 & 1 \\ \hline \end{array} \quad 2 \times 2 \times 3 \times 5$ 4×15 $60v$	M1 A1	Accept use of multiples M1 for correct method A1 for EC	9	PC	$28.615 = \frac{20m}{1sec}$ $= \frac{20m}{\frac{1}{300}} = 6000m$ M1 for dividing $= 20 km \times \frac{3000}{1 hr}$ $= 72 km/h$	A1	for 2L
4	P5	Range = H-L $= 8 - 3v$ <u>5</u> v	M1 A1	for subtracting A1 for 5					
5	P4	Sh. 1200 $\times 12v$ Sh. 14400 v	M1 A1	for multiplying A1 for Sh. 144,000	10	P7	$m+3 \equiv 1 \pmod{7}$ $m+2m+3 \equiv 1 \pmod{7}$ M1 for subtracting $m \equiv 117 - 3 \pmod{7}$ $m \equiv 5 - 3 \pmod{7}$ $m \equiv 2 \pmod{7}$	A1	for 72km/h
6	P5	GnP or set Gv	B2	En sight					
7	P6	155° $w+55^{\circ} = 180^{\circ}$ (co-int) angles $w+55^{\circ} = 180^{\circ} - 55^{\circ}$ $w = 125^{\circ}$ A1			11	PE	$3x - (x+4)$ $2x - x = 4v$ <u>$2x - 4$</u> v	M1 A1	for removing brackets
					12	PC	$3 - 5v$ $+ 12 \frac{1}{2} v$ <u>$15 - 5v$</u> v	M1	for adding

Qn	Class	Solution	Marks	Comments	Qn.	Class	Solution	Marks	Comments
13	PE	$\frac{1}{2}bh = \frac{1}{2}bh$ $\frac{1}{2} \times \frac{3}{2} \times h = \frac{1}{2} \times 12 \times 24$ M1 $\frac{3}{2}h = 24$ $h = 16 \text{ cm}$	A1	for correct method	18	PE	$2^5 - 1$ $2^5 - 1 \times M1$ $2 \times 2 \times 2 \times 2 - 1$ 32-1 31 proper subsets A1	A1	for -1
14	PE	$\begin{array}{r} 10 \\ 18 - 12 \\ \hline 19 \end{array}$	M1	for adding	19	PE	$\frac{1}{3} \text{ kg} \rightarrow \text{sh. 1ccc}$ $1 \text{ kg} \rightarrow \text{sh. 1ccc} - \frac{2}{3}$ $\rightarrow \text{sh. } \cancel{\text{ccc}} \times \frac{1}{3}$ $\rightarrow \text{sh. 2ccc}$ $4 \text{ kg} \rightarrow \text{sh. } \cancel{2ccc} \times 4$ M1 for multiplying sh. 7ccc A1 for correct	A1	for -1
20	PE	<u>Value of x</u> $y = x - 3$ $4 = x - 3$ $4 + 3 = x - 3 + 3$ $7 = x$ <u>Value of y</u> $y = x - 3$ $y = 0 - 3$ $y = -3$	B1	for carry method 1 cnd - 3	20	PE	$2\pi r = C$ $2 \times 22 \frac{r}{7} = 55$ M1 $\frac{1}{4} \times \frac{44}{7} r = \frac{55}{4} \times \frac{7}{4}$	A1	for correct substitution
16	PE	 r P_1 for correct angle					$r = 14 \text{ metres}$ A1 for atm		
17	PE	$\begin{array}{ c c } \hline & 214 \\ \hline 7 & \\ \hline 14 & \\ \hline 7 & \\ \hline 1 & \\ \hline \end{array}$ $14 = 2 \times 7$	M1	for correct method			$22d = C$ $7 \times \frac{22}{7} d = 88 \times 7$ M1 for correct method		
			A1	for 2x7			$\frac{22}{22} d = \frac{88}{22}$ $d = 28$ $\text{radius} = 14 \text{ m}$ A1 for correct		

Qn.	Class	Solution	Mrks	Comments	Qn.	Class	Solution	Mrks	Comments
25	P6	<u>sketch</u>			27	P7	$1+30 = \frac{1}{7} M_1$		
				S1 for a detailed sketch		$31 = \frac{1}{7} M_1$			
							$31 - 7 = 4 \times 3$		
							$21 = 3(\text{mod } 7) \checkmark$		
							The day will be Wednesday ✓ B1 for 11th day		
							Days remaining in Sept. $30 - 14 = 16$		
							Days still cover in Oct. $30 - 16 = 14$		
							The date will be Wednesday ✓		
							(C4) 14th October ✓ B1 for correct date		
					28	P6	(a) $3a - 5 + 5 = 19 + 5 \checkmark M_1$ for collecting like terms		
							$\frac{3a}{3} = \frac{24}{3}$		
							$a = 8 \checkmark A_1$ for L		
							(b) $5k - 3 = k + 5$		
							$5k - k = 5 + 3 \checkmark M_1$ for collecting like terms		
							$\frac{4k}{4} = \frac{8}{4} \checkmark M_1$ for collecting like terms		
							$k = 2 \checkmark A_1$ for L = 2		
							(Q5)		

Qn.	Class	Solution	Mrks	Comments	Qn.	Class	Solution	Mrks	Comments
27	P6	(a) $80 \text{ cm} \times 10 \text{ cm} \times 9 \text{ cm} \checkmark M_1$ $4800 \text{ cm}^2 \times 7 \text{ cm} \checkmark$ $43200 \text{ cm}^3 \checkmark A_1$		Emphasize correct units	31	P7	(a) Discovered before problem $\frac{35 \text{ km}}{\text{hr}} \times 2 \frac{\text{hr}}{\text{hr}} = 70 \text{ km} \checkmark B_1$ for 70 km		
							Total time from K to L $\frac{11}{12} + \frac{7}{12}$ $- 8 \frac{3}{4}$ $3 \frac{45}{60} = 3 \frac{15}{60}$ $= 3 \frac{1}{4} \text{ hrs}$		
		(b) $5 \times 4800 \text{ cm}^3 \checkmark$ $5 \times 4800 \text{ cm}^3$ $24000 \text{ cm}^3 \checkmark B_1$ Water in litres $24000 \text{ cm}^3 \checkmark$ $1000 \text{ cm}^3 \checkmark M_1$ 240 litres $\checkmark A_1$					Time taken after the problem $3 \frac{1}{4} - (2 \text{ hrs} + \frac{1}{2} \text{ hr})$ $3 \frac{1}{4} - 2 \frac{1}{2}$ $3 \frac{4}{4} - 2 \frac{2}{4}$ $1 \frac{1}{4} \text{ hrs} \checkmark$		for 11hr
									+ 1/2 hr.
30	P6	(a) Total age = 20×4 $= 88 \text{ yrs} \checkmark P_1$ for sum Sarah - n Susan - n+5 Nelious - n+14 Barbie - n+4+17 $= n+23$ $n+n+5+n+4+n+23 = 88 \checkmark M_1$ for eqn $n+n+5+n+4+n+23 = 88$ $4n + 32 = 88 \checkmark M_1$ $4n = 56$ $n = 14 \checkmark A_1$ for 14							
		(b) Susan $\rightarrow 15 = 14 + 5$ $= 17 \text{ yrs} \checkmark B_1$							

Qn.	Class	Solution	Mrks	Comments	Qn.	Class	Solution	Mrks	Comments
31	P7	(b) Total distance covered 120 km + 120 km = 240 km Time taken returning $\frac{10}{16}$ hrs $\frac{96}{8}$ $\frac{5}{4}$ hrs $\frac{8}{4}$ $1\frac{1}{4}$ hrs ✓	B1	for $1\frac{1}{4}$ hrs					
		Total time taken $3\frac{3}{4} + 1\frac{1}{4} = 3 + 1 + \frac{3}{4} + \frac{1}{4}$ = 4 + 1 = 5 hrs A S = $\frac{240}{5}$ km 5 hrs							
	(Q5)	= 48 km/hr ✓	B1	for 48 km/hr					
32	P5	a) $24 \times 4 = 96$ books M1 A1 for multiplying or adding	M1 A1	for multiplying or adding					
	b)	$3 - 2\frac{1}{2} = \frac{1}{2}$ $\frac{1}{2} \times 24 = 12$ more books	M1 A1	for multiplying					
	c)	24×12 288 books	M1 A1	for multiplying					