



THE DESTINY ACADEMIC RESEARCHERS CONSULTANCY KAMPALA

THE 2024 PLE GENIUS PREPARATION SERIES MATHEMATICS

Time allowed: 2 hours 30 minutes

Index No.	Random No.						Personal No.		

Candidate's name:

Candidate's signature:

School Random number:

District No.

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Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.

2. This paper has two sections: **A** and **B**.

Section **A** has **20** questions and section **B** has **12** questions. The paper has **12 printed papers** altogether.

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

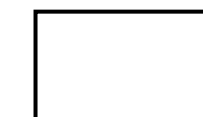
4. **All** working must be done using a **blue** or **blackball** point pen or ink. Any work done in pencil other than graphs and diagrams will **NOT** be marked.

5. **No calculators** are allowed in the examination room.

6. Unnecessary **changes** in your work and handwriting that cannot easily be read may lead to loss of marks.

7. Do not fill anything in the table indicated:
"For examiners' use only" and the boxes inside the question paper.

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



SECTION A (40 Marks).
Answer all the questions in this section.
Each Question carries two marks

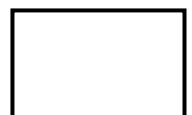
1. Work out: $56 - 24$

2. Given the number **3046.84**, complete the table below.

Place Value	Thousands
Value	0.04

3. The sum of two numbers is x . The first number is 45. If the second number is $\frac{2}{3}$ of the first number, find the value of x .

4. The distance round a circular floor garden is 88 metres. Find the radius of the garden (use π as $\frac{22}{7}$).

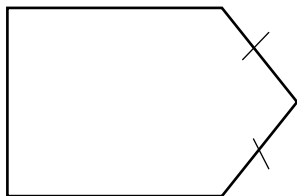


5. Find the missing number in the operation: $3^3 \times \underline{\hspace{2cm}} = 3^5$

6. A shopkeeper sold 50 kg of maize flour in a week. This was $\frac{1}{2}$ of a full sack of maize flour. How many kilograms does a full sack carry?

7. Round off 41957 to the nearest thousands.

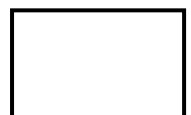
8. How many lines of folding symmetry does the figure below have?



9. A boy fetched 60 litres of water in the morning and 72 litres in the evening. Find the capacity of the biggest container the boy used in both instances.



10. Express 00 43 hours in the 12 hour clock system.
11. 45 out of 75 learners in P.6 got above the pass mark in a Mathematics Examination. Which percentage of the class scored above the pass mark?
12. 8 builders take 10 days to complete a house. How many builders are needed to complete the house in only 5 days?
13. An athlete ran 600 metres in 1 minute. Calculate his speed in metres per second.



TURN OVER

14. Write an algebraic expression: **Add 7 to m , then double the result.**

15. Find the next in the sequence: 0.1, 0.4, 0.7, 1.0, _____

16. The bearing of a teacher's home from school is 075° . Find the bearing of the school from the teacher's home.

17. Using a pair of compasses and a ruler, construct an angle of 255° .



TURN OVER

18. At birth, Darwin weighed 3.27 kg. How many grams did Darwin weigh?

19. Work out: $^{-}8 - ^{-}5$

20. 20. Given that $m = 3.2$, $n = 2$, evaluate $5m - n$



TURN OVER

SECTION B (60 Marks)

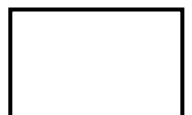
Marks for each question are indicated in brackets

21. The perimeter of a rectangular garden is 280 metres. The ratio of its length to its width is 5:2 respectively. Find the area of a rectangle. **(05 Marks)**

22. A father is 20 years older than his son. In 10 years, father will be twice as old as the son.

(a) How old is the son? **(03 Marks)**

(b) Find the father's age in 10 years. **(02 Marks)**



23. The interior angles of a pentagon are: $(k + 15^\circ)$, $(2k + 13^\circ)$, $(3k + 12^\circ)$, $(4k + 10^\circ)$ and 80° . Find the value of k .

(05 Marks)

24. Complete the table showing bases, heights and areas of different triangles. **(02 Marks each)**

Base, b	Height, h	Area, A
5cm	12cm
.....	8m	24m^2
7cm	21cm^2



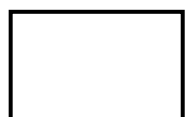
25. Given that Set $P = \{2, 3, 4, 5, 6, 7, 8, 9, 10\}$, $Q = \{2, 5, 7\}$ and $R = \{3, 5, 7, 9\}$,

a) What is the relationship between Sets P and R?(**02 Mark**)

b) List the elements of the set $(Q' \cup P')$. (**02 Marks**)

26. A rectangular container has length of 6 m, height of 4 m and surface area of **148m^2** . Find its width. (**04 Marks**)

27. Find the base three numeral that is equivalent to 123_{five}
(**04 Marks**)



28. Given that $(P - Q) = \{2_3\}$, $(Q - P) = \{3_2, 3_3\}$ and $(Q \cap P) = \{2_1, 2_2, 3_1\}$,

a) Find the value of P.(02 Marks)

b) Find the value of Q. (02 Marks)

c) Find the LCM of P and Q.(02 Marks)

29. In a class of 60 pupils, the mean mark in a test was 65 for the girls and 50 for the boys. If there were 25 girls in the class, find the mean mark for the class in the test. **(06 Marks)**



30. The capacities of two similar bottles are **300 ml** and **8100 ml**.
If the height of the larger bottle is **12 cm**. Find the height of the
smaller one. **(05 Marks)**

31. A mother earns **sh. 600,000** per month. She spends
sh. 380,000 on family needs and uses the rest to pay school fees
for three children in the ratio **6:2:3** respectively. How much
money is spent on each child's school fees per month? **(05
Marks)**



32. The marked price of an item in a shop is sh. 100,000. Martin was asked to make a deposit of sh. 120,000 and pay the rest in 5 monthly installments of 20% of the down payment. How much less money did Martin buy the item if he paid cash?**(05 Marks)**

END

