THE DESTINY ACADEMIC RESEARCHERS CONSULTANCY KAMPALA

THE 2024 PLE GOLDEN SPECIAL PREPARATION SERIES
MATHEMATICS
Timeallowed:2 hours 30minutes

Index No.

	Random No.					Personal No.		

Candidate's name: ………………………………………………………………….

Candidate's signature: ………………………………………………………………..

School Random number: …………………………………………………………..

District No.

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 **al l** 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 **black**ball 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		

1. Add 103 to 17

2. Express 3.08 kilograms of meat to grams.

3. Change 42 $_{ten}$ to base five.

4. Simplify: (2.5x900)+(100x2.5)

5.Subtract: 9 tenths from 2 tens.

6.Find the next number in the sequence: $\mathbf{9,3,1,\frac{1}{3}},$ _____

7. Solve: $0.5m - 1 = 0$

8. Add: $\dfrac{5}{6} + \dfrac{2}{6}$

9. Using a pair of compasses and a ruler only, construct a perpendicular bisector of the line AB below
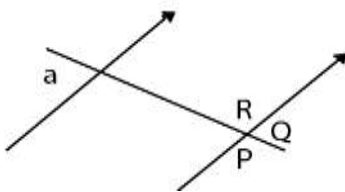

10. Draw a Venn diagram to show that all girls (G) are Females (F).

11. The area of a rectangle is $36cm^2$. Its length is 9cm. What is the width of the rectangle?

12. Simplify: 2cb + 4am+ cb– 2am

13.In the diagram below, which of the angles P, Q, R is the same as the angle marked **a**?

14. A pot contains $5\frac{1}{2}$ litres of water. How many half-litre bottles will the water fill?

15. A pencil and an exercise book cost sh. 4000. An exercise book costs three times as much as the pencil. What is the cost of the pencil?
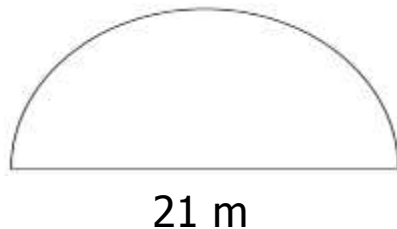
16. If 1 Tanzania shilling = Ug. Sh. 1.5, how many Tanzania shillings can you get from Ug. Sh. 18,000?

17. Find the number of subsets in a set M with odd numbers between 7 and 17

18. The arithmetic mean mass of three parcels is 5kg. Two of them have a mass of 4 kg each. What is the mass of the third parcel?

19. Solve: 4 + m = 3 (finite 5)

20. Express 108 in powers of 2 and 3.

SECTION B (60 Marks).

Marks for each question are indicated

21. In a small town in Uganda, the population has been slowly declining. In the year 2022, there were 2087 residents. There are only1560 residents this year. Work out the percentage decline in the population.

    (04 Marks)

22. Trees are planted round the semi–circular floor garden below at an interval of 60cm. The diameter of the semi-circle is 21 metres.
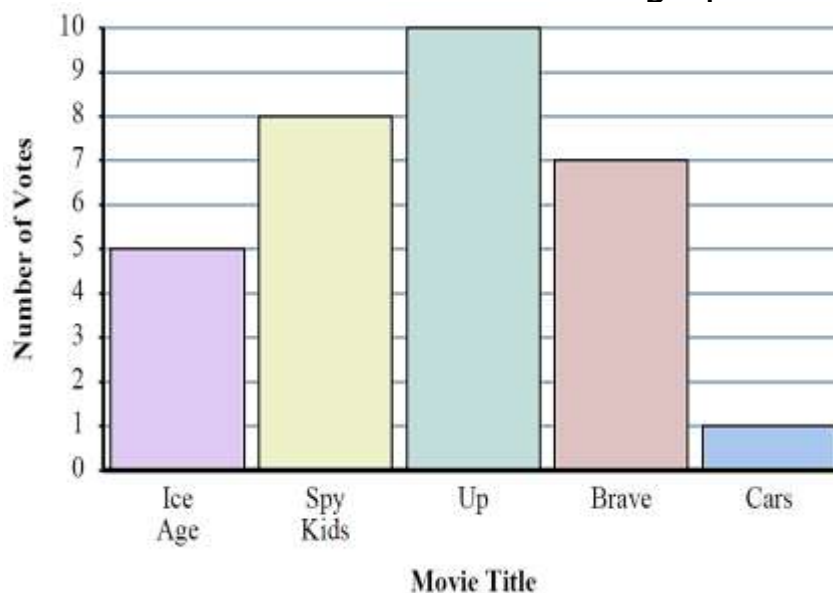
    (04 Marks)

21 m

How many trees can be planted round the whole garden? Use π as $\dfrac{22}{7}$

(04 Marks)

23. The sum of three consecutive multiples of 8 is 888. Find the multiples.**(05 Marks)**

24. a)Express **0.8333...** as a common fraction.**(03 Marks)**

b) Express 24% as a ratio in its simplest form. **(02 Marks)**

25. At home the learners had to vote on which movie to watch. The voting results are listed below. Use the bar graph to answer the questions.

a) What is the difference in the number of people who voted for Spy Kids and the number who voted for Ice Age? **(02 Marks)**

b) Find the mean number of learners who participated in voting for the movie titles.**(03 Marks)**

26. A man bought the following items from a shop
- 3 kg of pesticides at 7.5 US Dollars ($) per kg
- 5 kg fertilizer at 550 Kenya Shillings (K.sh.)per kg
- 5 litres of petrol at 65Pounds (£).

Given that US = Ug. Sh. 3600, £ 1= Ug. Sh. 4200 and
K. sh. 1 = Ug. Sh. 30, find his total expenditure on the items in Uganda Shillings. **(06 Marks)**

27. Mumbere rolled a die 30 times and recorded the following results.

Face	1	2	3	4	5	6
Number of times the face shows up	4	9	**y**	2	1	3

a) Find the value of **y.(02 Marks)**

b) What was the probability of getting a six on the die to show up?
   (02 Marks)

c) How many times would a face marked 2 be likely to show up if he had rolled the die 60 times?**(02 Marks)**

28. Find the product of the value of 3 in 2375 and the value of 4 in 2.41_{five}.**(05 Marks)**

29. In a scale diagram, 1cm represents 50 metres.

a) Write the linear scale in ratio form.**(02 Marks)**

b) Find the drawing length for 1.25 km.**(02 Marks)**

c) Find the actual length in kilometers corresponding to a length of 10.5cm on the diagram.**(02 Marks)**

30. Musa, John and David start at the same time, position and direction to run round a circular field. Musa takes 180 seconds, John takes 480 seconds and David takes 720 seconds to complete one circuit. If they start running at 3.00 pm, at what time will they all be at the same position? **(05 Marks)**

31. A tank has two taps that pour water into it. Tap A turned alone, fills the tank in **20** minutes. Tap B turned on alone fills the tank in **10** minutes.

(a). How long will the two taps turned on at the same time take to fill the tank?**(03 Marks)**

(b). If both taps pour **36** litres of water per minute, what amount of water does the tank hold when full?**(02 Marks)**

32. A taxi leaves Kampala at 9:15 a.m. and reaches Mbarara Taxi Park at I2:15p.m at a speed of 60km/hr. The same taxi returns to Kampala, through the same route, at a steady speed of 90km/hr.

Calculate:

a) The distance covered by the taxi from Kampala to Mbarara. **(02 Marks)**

b) The average speed of the taxi for the whole journey. **(03 Marks)**

END