

PTE MOCK EXAMINATION

2011/1

P1 MATHEMATICS

NAME: _____

MARCH EXAMINATION

INDEX NO: _____

MARCH, 2019

CLASS: _____

TIME: 2¹/₄ HRS

Instructions to Candidates

1. Write your Name, Index Number and Class in the spaces provided above.
2. This questions paper has **TWO Sections; A and B**
3. Answer **ALL** the questions in **Section A**
4. Answer **ANY FIVE** questions from **Section B**.

For official use only

Section	Question	Maximum score	Candidates score
A	1-20	60	
B	21	8	
	22	8	
	23	8	
	24	8	
	25	8	
	26	8	

This paper consists of 12 printed page. Candidates should check the question paper to ensure that all the pages are printed as indicated and that no question is missing.

SECTION A (60 Marks)

Answer ALL the questions in this section in the spaces provided.

1. Evaluate $\frac{216+21 \times 15}{105-46}$ (2mks)

2. Write down the next number in the sequence 16, 41, 75, 125, 200 (2mks)

3. Two business partners Ahmed and Wekesa contributed sh.350000 and sh.150000 respectively. The business realized a profit of sh.75000, which was shared proportionally to their contribution. How much more money did Ahmed get than Wekesa. (3mks)

4. A cylindrical tank of diameter 4m and a height of 2.1m is full of water. The water is emptied into rectangular tank of base 5m by 3m. What is the height of water in the rectangular tank?

$(\Pi = \frac{22}{7})$ (4mks)

5. On a map, a rectangular plot of land measures 5cm by 2cm. The scale used on the map is 1:25000. Calculate the actual area of the plot of land in hectares. (4mks)

6. Construct a rhombus of side 4cm and 45° being the smaller angle using a pair of compasses and a ruler only. What is the length of the longer diagonal? (3mks)

7. A matatu left Kisumu at 8:30am and travelled to Voi, a distance of 320km at a speed of 80km/h. At 9:15am, a car left Kisumu for Voi at a speed of 120km/h. What is the difference between the arrival time of the matatu and the car? (3mks)

8. Evaluate $2(9^x) + 3^{2x} = 27$ (3mks)

9. John and Chomba each deposited sh. 100000 in a financial institution for two years earning interest at the rate of 12% per annum. Johns' deposit earned simple interest while Chombas' deposit earned compound interest. How much more interest did Chomba earn than John? (4mks)

10. The length of a rectangle is 4cm greater than the width and its area is $165cm^2$. Taking x to represent the length of the rectangle, write a quadratic equation to represent the summation and hence determine the length of the rectangle. (3mks)

11. Samuel left $\frac{1}{4}$ of his land to his son, $\frac{1}{8}$ to each of his two daughters, $\frac{1}{3}$ of the remainder to his brother and the rest to his wife. If Samuel had 240 hectares of land, how much did his wife get? (4mks)

12. Angela paid sh.1050 for a pair of shoes after the price was decreased by $12\frac{1}{2}\%$, what was the price of the shoes before the decrease? (3mks)

13. Solve the following pair of simultaneous equation (3mks)

$$3x + 2y = 4$$

$$4x + 5y = 3$$

14. Three bells ring at intervals of 12 seconds, 32 second and 45 seconds. If they all start by ringing together, after how long will they ring together next? 3mks

15. The ratio of the corresponding sides of two similar triangles is $\frac{4}{3}$. If the area of the smaller triangle is 36cm^2 . What is the area of the larger triangle? 3mks

16. Oduor receives a commission of 3% for the sale of goods up to sh.50000. He also receives a commission of 5% for the sale of goods above sh.50000. In a certain month he sold goods worth sh.150000. Find the local commission Odour received that month. (3mks)

17. Find the difference between the LCM and HCF of the number 24, 32 and 40 and give your answer in prime factors. 3mks

18. Below are heights in cm of tree seedlings in a school farm. 14, 13.5, 15.1, 14.4, 12.8, x , 14.2, 15.4

If their mean height is 14.125cm calculate the value of x (3mks)

19. Solve the inequality

$$2x + 3 > 5x - 4 \leq 4 - 3x \quad 4\text{mks.}$$

20. A ladder 3.75m long was leaning on a wall to a height of 3.6m. What was the distance from the foot of the ladder to the foot of the wall? 3mks

SECTION B (40 Marks)

Answer any FIVE questions in this section in the spaces provided

21. In a certain constituency three candidates Omar, Abdirahman and Hassan vied for a seat. Omar received 4032 votes, which was $\frac{8}{11}$ of the number of votes Abdirahman received. Hassan received $\frac{2}{3}$ of the total number of votes received by both Omar and Hassan. There were 72 rejected votes. If 96% of the registered voters cast their votes, how many registered voters did not vote?

22. A cereals shop sells maize and beans. Atieno bought 6kg of maize and 4kg of beans for a total amount of sh.282 while Mueni bought 9kg of maize and 5kg of beans for a total amount of sh.384.

a) Determine the price per kilogram of maize and that of beans. 6mks

b) A school bought three 90kg bags of maize and two 90kg of beans from the same cereals shop. How much money did the school spend? 2mks

23. A container with rectangular base 3m by 2m wide and a height of 1.5m was full of water. The water was to be poured into cylindrical containers with a base radius of 0.3m and a height of 0.5m (take $\pi = 22/7$)

a) Find the volume in litres of water in the tank. (3mks)

b) Determine the number of containers which were completely filled with water. (5mks)

24. Omar deposited sh.24000 in a bank that paid compound interest at the rate of 3% per annum.

a) If he withdrew all the interest at the end of the second year, how much did he withdraw? (4mks)

b) If Kawira deposited the same amount and for the same duration as Omar had deposited in a bank that paid simple interest at the rate of 3% per annum, how much interest did the money earn? (2mks)

c) Find how much more interest Omar earned than Kawira.

25. The figure below is a triangle XYZ where $XY = 4.3\text{cm}$ $YZ = 6.8\text{cm}$ and $XZ = 6.4\text{cm}$

a. i) Using a pair of compasses and a ruler only, construct a circle passing through the vertices of the triangle and mark the center of the circle as point O. (3mks)

ii) Measure the radius of the circle (1mk)

b) Drop a perpendicular line from point X to meet line YZ at N. Measure line XN and hence calculate the area of triangle XYZ (4mks)

26. An agent charges commission for sale of property as follows

- 5% on the first sh.200000 and 2.5% of the remainder

The agent sold a house for sh.3500000. Calculate the amount of money:

a) The agent got. (6mks)

b) The owner of the house got. (2mks)