P1 MATHEMATICS
PAPER 1
PTE MOCK EXAMINATION
MARCH/APRIL 2019
TIME: 2 ¼ HRS
INSTRUCTION TO CANDIDATES

1. *This question paper consist of **TWO** sections **A** and **B***
2. *Answer **ALL** the questions in section **A***
3. *Answer any **FIVE** questions from section **B***
4. *Candidates should also answer all questions in English*

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SECTION	QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
A	1 -20	60	
B	21		
	22		
	23		
	24		
	25		
	26		
TOTAL SCORES			

SECTION A – 60 MARKS

1. Evaluate the following (2mks)
   $36 + 8 \times 4 - 24 \div 12 \times 16 + 8$

2. Simplify (3mks)
   $\frac{2y^2 - 3xy - 2x^2}{4y^2 - x^2}$

3. Solve the following simultaneous equation using substitution method (3mks)
   $11p + q = 2$
   $9p - q = -6$

4. Juma left home at 2330h on Monday for a journey which 2 ¼ days to complete on what day and time in am/pm system did he complete the journey? (3mks)

5. A flower garden that 50m by 100m as shown of uniform width.

If the area of the path is 1264cm^2, find the width of the path (3mks)

6. The following data shows marks obtained by a class of 50 students in a class. Calculate the mean mark (4mks)

Mark	Frequency
0-4	3
5-9	4
10-14	5
15-19	6
20-24	11
25-29	8
30-34	9
35-39	4

7. Draw a graph of the following quadratic equation for the given range of x (3mks)
   $Y = x^2 + 6x + 9$
   $(-7 \leq x \leq 2)$

8. A pick up van was loaded with 4 cartons of cooking fat and 60 bales of flour. Each carton contained twenty four 250 g packets of fat. The mass of each empty carton was 500g. Each bale contained twelve 2kg packets of flour. What was the total load in tones? (3mks)

9. Illustrate the following inequality on a numberline (3mks)
   $-2 \leq x < 4$

10. Use a ruler and a pair of compasses only to construct a square of side 3cm. inscribe the square in a circle. What is the diameter of the circle (3mks)

11. Saitoti bought the following for his poultry.
    6 bags chick mash @ sh. 1,200 each
    10 bags growers mash @ sh. 900 each
    10 bags layers mash @ sh. 1100 each
    (a) Write a bill for his purchases (1mk)

    (b) If he was given a 10% discount, how much did he pay (2mks)

12. Juma bought 4 mangoes and 6 bananas for Ksh. 66 and Hassan bough 2 oranges and 5 apples for Ksh. 51. Find the price of each item (3mks)

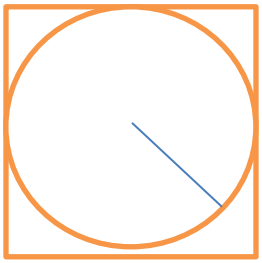
13. A cylindrical tin contains 924ml of medicines; its radius is 7cm and a height of 10cm.
    (a) What is the height of medicines in the tin? (2mks)

    (b) How much more medicine would be required to fill the tin? (2mks)

14. Evaluate $^{5}/_{6}$ of ($4\ ^{1}/_{3} - 3\ ^{5}/_{6}$) $\div\ ^{5}/_{12} - ¾$ (3mks)

15. A farmer bought a goat at Shs. 2400 and later sold it at a loss of 20% due to draught. What was his selling price? (3mks)

16. Below is a diagram showing a square with a circle inscribe in it. Find the difference between the perimeter of the square and the circumference of the circle, with o as centre of the circle (3mks)



17. Work out $\frac{0.7 \times 3.2^{2}}{0.028}$ (3mks)

18. Find the value of x that satisfy the equation
$14x^2 - 16x + 2 = 0$ (3mks)

19. Adbi bought 4 cartons each containing 15 packets of pencils. He paid sh. 1000 for the pencils. He then sold each packet for sh. 25. What percentage profit did he make? (3mks)

20. A dealer has three grades of coffee A, B and C. He made a new brand by mixing the three grades of coffee in the ration A:B = 5:3 and B:C = 2:5 Determine the ratio. A:B:C in its simplest form (2mks)

SECTION B (40 MARKS)

ANSWER ANY FIVE QUESTIONS FROM THIS SECTION

21. The mass of patients in a certain hospital was taken over time and recorded to the nearest Kilogram as shown below

41	52	65	71	81	91	103	118	123	133	140
56	42	48	53	68	72	82	92	104	128	134
66	73	83	93	129	94	84	74	58	42	45
75	85	93	97	86	76	46	43	77	87	88
78	40	49	79	89	71					

(a) Taking the lowest class limit to be 40 and a class interval of10 prepare a grouped frequency distribution table (4mks)

(b) Using the table in (a) above calculate the estimate mean mass of the patients (1mk)

(c) Calculate the median mass (3mks)

22. Using a pair of compasses and a ruler only. Construct a triangle ABC whose angle ABC is 82.5°, AB = 8 cm and BC = 6cm, inscribe a circle on the triangle. Measure the radius of the circle (8mks)

23. A customer deposited Ksh. 22,000 in a saving account. Kind the accumulated amount after one year if the interest was paid at 12% Pa compounded quarterly (8mks)

24. (a) The figure below represents a prism where its cross section area is a quarter a circle and the arc is 22cm
    (i) Calculate the area of the cross sections (2mks)
    (ii) Calculate the area of the rectangular faces (2mks)
    (iii) Calculate the total surface area of the prism (2mks)

    (b) Determine the total surface area of the prism (2mks)

25. Pipe P can fill a tank in 2 hours, pipe Q can fill the same tank in 4 hours pipe R can empty the tank in 3 hours
    (a) If pipe R is closed how long would it take pipes P and Q to fill the tank (4mks)
    (b) Calculate how long it would take to till the tank when the three pipes P,Q and R are left running (4mks)

26. Three partners Kamau, Njuguna and Mwangi invested in a business, they contributed as follows:- Kamau invested sh.60,000 per month for 3 months, Njuguna invested sh. 40,000 per month for 4 months and Mwangi invested sh. 20,000 per month for 2 months . If profit of sh. 144,000 was got how much did each receive if they shared in the ratio corresponding to their contribution and period of investment (8mks)