

KCPE NOVEMBER 2023 PREDICTION MASTER CYCLE 4

5160034

035713655



KENYA NATIONAL PREDICTION TESTS
KCPE



516003

MATHEMATICS

Time: 2 hours

INSTRUCTIONS TO CANDIDATES (Please read these instructions carefully)

1. You have been given this question booklet and a separate answer sheet. The question booklet contains 50 questions.
2. Do any necessary rough work in this booklet.
3. When you have chosen your answer, mark it on the **ANSWER SHEET**, not in this question booklet.

HOW TO USE THE ANSWER SHEET

4. Use only an ordinary pencil.
5. Make sure that you have written on the answer sheet:
YOUR INDEX NUMBER
YOUR NAME
NAME OF YOUR SCHOOL
6. By drawing a **dark line** inside the correct numbered boxes mark your full Index Number (i.e. School Code Number and the three-figure Candidate's Number) in the grid near the top of the answer sheet.
7. Do not make any marks outside the boxes.
8. Keep the sheet as clean as possible and do not fold it.
9. For each of the questions 1-50 four answers are given. The answers are lettered A, B, C and D. In each case only **ONE** of the four answers is correct. Choose the correct answer
10. On the answer sheet, show the correct answer by drawing a **dark line** inside the box in which the letter you have chosen is written.

Example

In the Question Booklet.

35. The following are factors of sixteen. Which one is the odd one out?
- A. 16
 - B. 1
 - C. 8
 - D. 3

5. (A) (B) (C) (D) 15. (A) (B) (C) (D) 25. (A) (B) (C) (D) 35. (A) (B) (C) (D) 45. (A) (B) (C) (D)

On the answer sheet:

In the set of boxes numbered 35, the box with the letter **D** printed in it is marked

11. Your **dark line** **MUST** be within the box.
12. For each question **ONLY ONE** box is to be marked in each set of four boxes.



906503

This question paper consists of 8 printed pages.

© Mtihani Bora



Contact Mr Machuki 0724333200/0795491185 for Marking Schemes or kenyaeducators.co.ke

- Which one of the following is 8730034.07 in words?
 - Eighty seven thousand three hundred and thirty four and seven hundredths
 - Eight million seven three thousand and thirty four and seven hundredths
 - Eight million seven hundred and thirty thousand and thirty four and seven hundredths
 - Eight million seven hundred and thirty thousand and three four and seven hundredths
- Round off 2481.3996 correct to three decimal places.
 - 2481.390
 - 2481.399
 - 2481.400
 - 2481.996
- Waite attended a seminar from 12th February to 18th April in the year 2012. For how many days did he attend the seminar?
 - 67
 - 66
 - 68
 - 65
- What is the place value of digit 5 in the number 906543?
 - Five hundreds
 - Hundreds
 - Five thousands
 - Thousands
- What is the value of:- $4(6^2 + 4^2) - 8 \times 6 \div 2?$

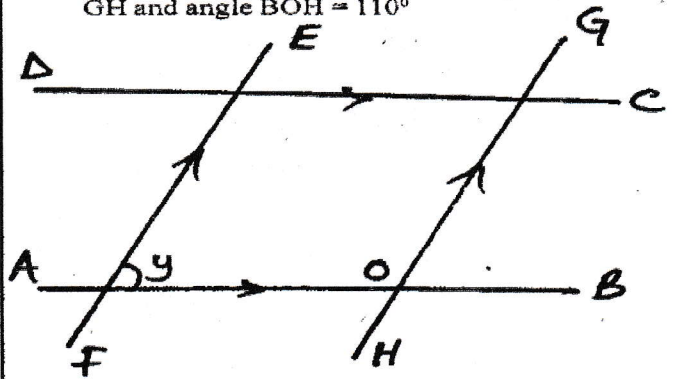
$$\frac{30 + 5 - 4}{30 + 5 - 4}$$
 - 64
 - 160
 - 144
 - 92
- Josphat bought the following items using the bill below.

Item	Sh
3 kg of flour @ Sh 90	270
1½ kg of rice @ Sh 100	150
_____ kg of sugar @ Sh 120	_____
A packet of milk @ Sh 50	50
TOTAL	

Josphat paid using a thousand shilling note and got a balance of Sh 50. How many kilograms of sugar did he buy?

- 2
- 4
- 8
- 6

- In the figure below, ABCD is a parallelogram, angle DAB = 50°. AB is parallel to DC, EF is parallel to GH and angle BOH = 110°



Calculate the value of the angle marked y

- 110°
- 130°
- 70°
- 50°

- Which of the following fractions is the square of $6\frac{1}{4}$?
 - $2\frac{1}{2}$
 - $36\frac{1}{16}$
 - $12\frac{1}{2}$
 - $39\frac{1}{16}$
- What is the next number in the series? 98, 61, 37, 24, _____
 - 9
 - 13
 - 4
 - 14
- Simplify:- $\frac{3}{5}(p + 3q) + \frac{2}{5}(p - 2q)$
 - $p + q$
 - $p + 2\frac{3}{5}q$
 - $\frac{3}{5}p + q$
 - $2\frac{3}{5}p + q$

11. The table below shows Isiolo to Nairobi bus timetable.

Station	Departure or arrival	Time
Isiolo	Dep	7.30 a.m
Meru	Arr	8.30 a.m
Meru	Dep	9.30 a.m
Ishiara	Arr	12.15 p.m
Runyenjes	Arr	1.00 p.m
Runyenjes	Dep	1.30 p.m
Embu	Arr	2.15 p.m
Makuyu	Arr	3.15 p.m
Nairobi	Arr	5.30 p.m

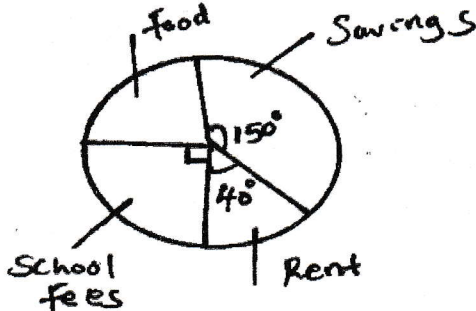
- How long did the bus take from Meru to Embu?
 A. 4 hrs B. $4\frac{3}{4}$ hrs C. $5\frac{3}{4}$ hrs D. $3\frac{3}{4}$ hrs
12. The perimeter of a right angled triangle is 56m. The longest side is 25m while one of the shorter sides is 7m. Find the area of the triangle.
 A. 600m^2 B. 70m^2 C. 42m^2 D. 84m^2
13. Construct an equilateral triangle ABC in which $AB = BC = CA$. Bisect line AB and BC to meet at point M. Drop a line from C to point M. What is the measure of angle AMC?
 A. 120° B. 100° C. 60° D. 80°
14. What is the value of $\frac{2}{3}$ of $1\frac{2}{3} + \frac{3}{4}$?
 A. $\frac{8}{25}$ B. $\frac{1}{2}$ C. $\frac{8}{9}$ D. $\frac{9}{50}$
15. Mwihaki paid Sh 2400 for a T.V set after getting a discount of 20%. What was the marked price of the T.V set?
 A. Sh 1920 B. Sh 2420
 C. Sh 2880 D. Sh 3000
16. Three bells are set to ring out at intervals of 5 minutes, 7 minutes and 10 minutes respectively. If they all ring together now at 9.15 a.m, at what time will they ring together next?
 A. 10.25 a.m B. 10.15 a.m
 C. 12.35 p.m D. 10.25 p.m
17. A rectangular container is 2m long, 1.5m wide and 1.0m high. The container is $\frac{1}{2}$ full of water. How much water does the container hold in litres?
 A. 3000 B. 1500 C. 150 D. 15000
18. The fractions $\frac{5}{8}$, $\frac{3}{7}$, $\frac{1}{2}$, $\frac{2}{5}$ are to be arranged from the largest to the smallest. Which one of the following is the correct order?
 A. $\frac{2}{5}$, $\frac{3}{7}$, $\frac{1}{2}$, $\frac{5}{8}$ B. $\frac{5}{8}$, $\frac{1}{2}$, $\frac{3}{7}$, $\frac{2}{5}$
 C. $\frac{2}{5}$, $\frac{3}{7}$, $\frac{1}{2}$, $\frac{5}{8}$ D. $\frac{5}{8}$, $\frac{1}{2}$, $\frac{3}{7}$, $\frac{2}{5}$

19. Which one of the following properties is false for both a rectangle and a parallelogram?
 A. Opposite sides are parallel
 B. Opposite sides are equal and parallel
 C. Diagonals bisect each other at 90°
 D. Opposite angles are equal
20. The table below represents the sale of milk in litres by a vendor in 5 days. The sale for Monday is not shown.

Days	Mon	Tue	Wed	Thur	Fri
No. of litres		20	16	18	22

- One litre of milk was sold at Sh 30. He got a total of Sh 2730. How many litres of milk did he sell on Monday?
 A. 10 B. 15 C. 24 D. 12
21. Construct triangle XYZ in which $XY = 3.4$ cm, $YZ = 5.6$ cm and $ZX = 4.2$ cm. What is the size of angle YZX?
 A. 50° B. 40° C. 90° D. 60°
22. What is the value of x in the equation:
 $8 + 2x + 6 = 31$?
 A. $8\frac{1}{2}$ B. $22\frac{1}{2}$
 C. 7 D. $4\frac{1}{7}$
23. A solid piece of wood is in the form of a triangular based pyramid. Which of the following statement is TRUE of the number of faces, edges and vertices?
 A. 4 faces, 6 vertices and 4 edges
 B. 5 faces, 5 vertices and 4 edges
 C. 4 faces, 4 vertices and 6 edges
 D. 6 faces, 12 vertices and 8 edges
24. 5 painters took 12hrs to paint a house. How long would it take 15 painters to paint the same house?
 A. 60 hrs B. 6 hrs C. 8 hrs D. 4 hrs
25. Which one of the following sets of measurements will form a right angled triangle when drawn?
 A. 9m, 16m, 25m
 B. 0.09m, 0.12m, 0.15m
 C. 5m, 12m, 17m
 D. 7m, 2.4m, 2.6m
26. A lorry is 7 tonnes when empty. It is loaded with 50 bags of maize each weighing 90 kg. What is the total mass of the lorry in kilograms?
 A. 11500 B. 4500 C. 1150 D. 5200

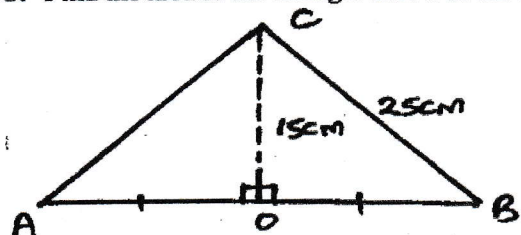
27. Kigunda bought 2 ha of land for Sh 4,800,000. He sub-divided the land into 40 plots of equal area and sold them making a 10% profit. How much did he sell each plot?
- A. Sh 104000 B. Sh 52800
C. Sh 120000 D. Sh 132000
28. The pie chart below shows how an employee spends his salary of Sh. 7000.



How much more does he spend on food than on rent?

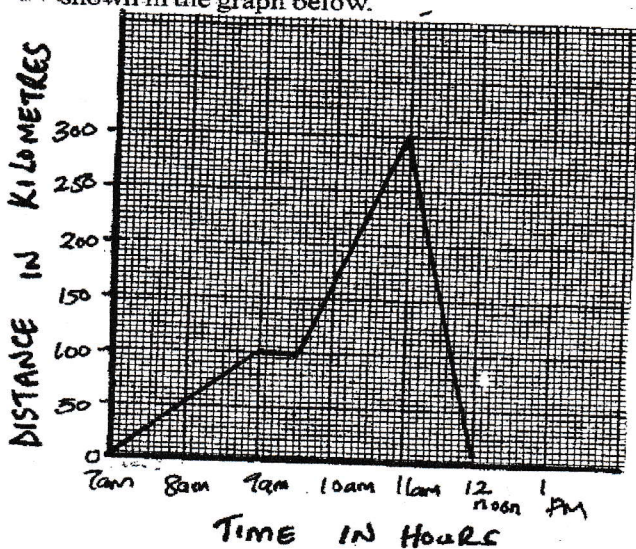
- A. Sh. 1600 B. Sh. 400
C. Sh. 800 D. Sh. 1000
29. Tula deposited Sh 20000 in Equity Bank that offered compound interest at the rate of 10% per annum. After 2 years he withdrew all the interest earned. How much did he withdraw?
- A. Sh. 24000 B. Sh. 24200
C. Sh. 4000 D. Sh. 4200
30. In a parents meeting the number of men was 200. The number of girls was three times that of men and 120 more than that of women. The number of boys was 30 more than that of girls. What was the total number of people at the meeting?
- A. 839 B. 2150
C. 2950 D. 1910
31. The cash price of a bicycle was Sh 4000. The hire purchase price was 40% more than the cash price. John bought the bicycle on hire purchase by paying a deposit and 12 equal monthly instalments of Sh 300 each. How much did he pay as deposit?
- A. Sh 2000 B. Sh 3600
C. Sh 1600 D. Sh 5600
32. The area of a triangle whose base is 12cm and height 5cm is the same area as a rectangle whose width is 3cm. What is the length of the rectangle?
- A. 20cm B. 6 cm C. 10 cm D. 15 cm

33. What is the value of:-
 $0.3 + 5$ of $0.9 + 0.3 + 0.8 \times 0.4$?
- A. 5.92 B. 5.42 C. 0.77 D. 15.62
34. A salesman is paid a salary of Sh 8000 per month and a 3% commission on goods sold above Sh 50,000. How much was he paid in a month that he sold goods worth Sh 450,000?
- A. Sh 18000 B. Sh 22000
C. Sh 12000 D. Sh 20000
35. A section of a road measuring 8km is represented on a map by 8cm. Which one of the following is the scale used on the map?
- A. 1:10000 B. 1:800000
C. 1:100000 D. 1:1000000
36. Chebet has Sh y and Natalia has Sh 450 more than Chebet. How much money do the two girls have altogether?
- A. Sh. $(y + 450)$ B. Sh. $(2y + 450)$
C. Sh. $(2y - 450)$ D. Sh. $(2y + 900)$
37. At the start of year 2007, there were 1200 pupils in a school of which 45% were boys. At the end of the year the number of girls had decreased by 15% and that of boys had increased by 10%. What was the actual number of pupils in the school at the end of the said year?
- A. 594 B. 1155
C. 561 D. 1140
38. Find the area of the triangle below in cm^2 if $AO=OB$



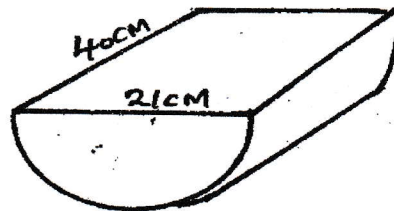
- A. 500 cm^2 B. 1000 cm^2
C. 200 cm^2 D. 300 cm^2
39. The mean age of 6 men in a village is 31 years. The ages of 5 of them are 20, 23, 38, 44 and 32 years. Find the age of the other man.
- A. 31 B. 62 C. 29 D. 30
40. A father shared his land among his 3 sons as follows: The first born got $\frac{1}{3}$ of the land, the second born got $\frac{5}{12}$ while the last born got half of the rest. What fraction of the land did the father remain with?
- A. $\frac{1}{8}$ B. $\frac{1}{4}$ C. $\frac{1}{12}$ D. $\frac{1}{9}$

41. The perimeter of a square is $1\frac{3}{5}m$. Find its area.
 A. $\frac{3}{5}m^2$ B. $1\frac{1}{5}m^2$ C. $\frac{4}{25}m^2$ D. $2\frac{14}{25}m^2$
42. A cyclist took 3 hours to cycle to a market. If he cycled back home at an average speed of 4km/hr and took 5 hours. What was his average speed for the whole journey?
 A. 6 km/hr B. 8 km/hr C. 4 km/hr D. 5 km/hr
43. Javaya shared part of his shamba among his four children. Their share were: 0.25, 0.27, 0.23, 0.15. He also gave 0.05 to his cousin Nyumu. He found that he had shared 38 ha. How many ha of land remained?
 A. 4 ha B. 2 ha C. 40 ha D. 11.4 ha
44. In a census the population of a town was 80000 people. The population increased in the ration 3:2. If $\frac{1}{3}$ of this population were children, how many adults were there in the town?
 A. 80,000 B. 120,000
 C. 40,000 D. 60,000
45. Twelve 10 decilitres packets of milk were emptied into a 50 litre container. How much more litres of milk are needed to fill the container?
 A. 76 B. 38 C. 52 D. 100
46. A watch gain 30 seconds every hour. If the watch was set right on Monday at 11.50 p.m, what day and time did it show after 6 hours?
 A. Monday 11.53 p.m B. Monday 11.53 a.m
 C. Tuesday 5.53 a.m D. Tuesday 5.53 p.m
47. A motorist travelled from town A to B and back as shown in the graph below.



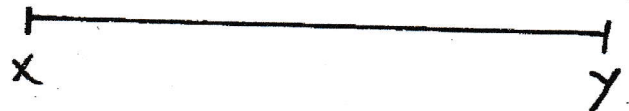
What was her average speed of the whole journey in km/hr?

- A. 75 B. 90 C. 120 D. 60
48. The figure represent a quarter cylindrical piece of wood of radius 21cm and 40cm length. What is the surface area of the solid?



- A. 4026cm²
 B. 3840cm²
 C. 4862cm²
 D. 5706 cm²

49. On the line given XY construct a triangle XYZ such that $XZ = YX = YZ = 8cm$. Construct a circle that touches sides XZ , XY and ZY . What is the radius of the circle?



- A. 3.2cm B. 2.4cm C. 4.6cm D. 1.8cm

50. The figures below show a pattern of shapes. Which one of the shapes should be drawn in the space left?

