

KCPE NOVEMBER 2023 PREDICTION MASTER CYCLE 5 5160035

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.



This question paper consists of 8 printed pages.

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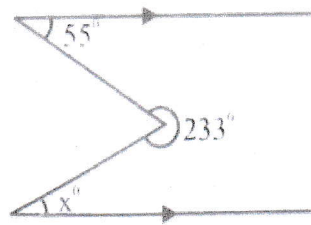
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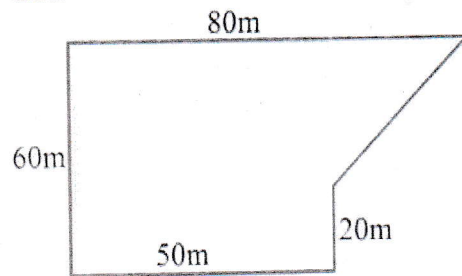
Contact Mr Machuki 0724333200/0795491185 for Marking Schemes or kenyaeducators.co.ke

- What is 56056056.056 in words?
 - Fifty six million fifty six thousand and fifty six and fifty six hundredths
 - Fifty six million, fifty six thousand and fifty six and fifty six thousandths
 - Five hundred and sixty million fifty six thousand and fifty six thousand and fifty six thousandths
 - Fifty six million fifty six thousand and fifty six point zero five six
- What is the value of $\frac{9^2 + 69}{3} - 24$?
 - 20
 - 26
 - 72
 - 5
- How many times is the value of digit 9 greater than the value of digit 2 in the number 5893426?
 - 89980
 - 45000
 - 90020
 - 4500
- Which one of the following numbers when rounded off to the nearest thousandths gives 599.900 as the answer?
 - 599.89957
 - 599.90067
 - 599.89938
 - 589.90051
- Which one of the following fractions has the least value?
 - $\frac{3}{8}$
 - $\frac{2}{3}$
 - $\frac{5}{9}$
 - $\frac{4}{7}$
- What is the value of $\frac{3.24 \times 1.5}{4.5}$?
 - 0.18
 - 18
 - 108
 - 1.08
- By how much is the LCM of 18, 24 and 36 greater than the GCD of 12 and 54?
 - 72
 - 78
 - 66
 - 12

- What is the value of angle x in the figure shown below?



- 78°
 - 72°
 - 178°
 - 55°
- The total surface area of a closed cylinder is 1188cm^2 . If its curved surface area is 880cm^2 , what is the base area of the cylinder? (Take $\pi = \frac{22}{7}$)
 - 308cm^2
 - 208cm^2
 - 154cm^2
 - 151cm^2
 - The figure below shows Amonda's piece of land.



- What is the area of Amonda's piece of land in square metres?
- 2600
 - 3600
 - 7800
 - 4800
- The area of a triangle is 108m^2 . If its base length is 12m, what is the height of the triangle?
 - 9m
 - 12m
 - 24m
 - 18m
 - Which one of the following statements is **not** true about a rhombus?
 - Its diagonals are not equal
 - Has a pair of parallel sides
 - Opposite angles are equal
 - Diagonals intersect at right angles

13. Nine men would take 4 hours to do a given piece of work. How many more men are needed if the work is to be completed in three hours only?

A. 12
C. 3
B. 4
D. 6

14. Solve for y in $24(y-2) - 6(3y+4)$

A. 8
C. 4
B. $\frac{1}{2}$
D. 12

15. Ngoni has m sweets. Abdinoor has 12 sweets less than Ngoni while Mueso has half the total number of sweets that both Ngoni and Abdinoor have. If they all had 84 sweets, which one of the following equations can be used to calculate the number of sweets that Ngoni had?

A. $3m - 24 = 84$
C. $3m + 18 = 84$
B. $3m + 24 = 84$
D. $3m - 18 = 84$

16. What is the value of: $\frac{a(4b+c)}{c} - b$? where $a=4$, $b=2$ and $c=6$

A. $\frac{1}{3}$
C. $7\frac{1}{3}$
B. 12
D. $9\frac{1}{3}$

17. What is the simplest form of $5(4x - 3y) + 2(4y + 2x)$?

A. $24x - 7y$
C. $28x - 11y$
B. $24x - 21y$
D. $28x - 19y$

18. Steve departed for school which was 12km away at 6.55am and he arrived at school at 7.35am. At what speed was he moving in metres per second?

A. 5
C. 10
B. 18
D. 12

19. In a class, the ratio of boys to girls is 4:5. If there are 15 more girls than boys. How many boys are there in that class?

A. 75
C. 60
B. 12
D. 27

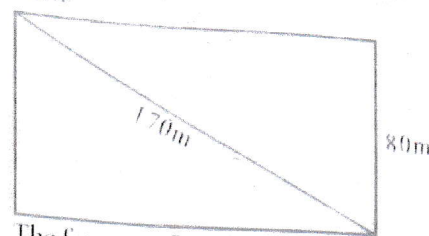
20. By selling a radio for sh 36000, Onkoba made a 10% loss. How much could he have sold the radio to make a 10% profit?

A. Sh 40,000
C. Sh 44000
B. Sh 4000
D. Sh 39600

21. Mourice borrowed sh 40000 from Absa bank that charged simple interest at the rate of 12% p.a. How much money did he pay back by the end of 2 years?

A. Sh 9600
C. Sh 49600
B. Sh 44800
D. Sh 50176

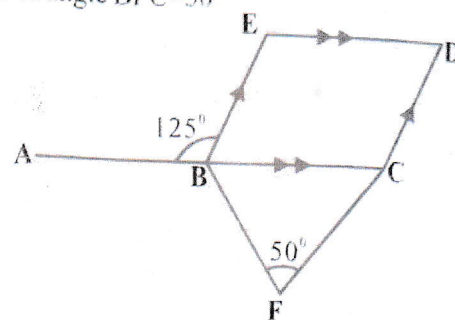
22. The figure below shows Bellevue's school farm



The farm was fenced using four strands of wire. What was the total length of the wire that was used?

A. 460m
C. 1000m
B. 1840m
D. 840m

23. In the figure below ABC is a straight line. EBCD is a parallelogram. Angle ABE = 125° and angle BFC = 50°



What is the size of angle EBF?

A. 105°
C. 140°
B. 125°
D. 130°

24. A sales person earns a monthly salary of sh.6000 plus a 7% commission on the value of goods sold above sh.50000. In a certain month, he sold goods worth sh 190,000. What was his total earning that month?

A. Sh 9800
C. Sh 15800
B. Sh 13300
D. Sh 19300

25. A drum is $\frac{3}{8}$ full of water. After adding 120 litres, it became $\frac{3}{4}$ full. What is the capacity of the tank?

A. 120L
C. 240L
B. 320L
D. 440L

26. What is the value of $\frac{3}{4}$ of $(\frac{1}{2} - \frac{1}{4}) + 2\frac{1}{4} + \frac{1}{2}$?

A. $\frac{11}{16}$
C. $\frac{13}{24}$
B. $10\frac{5}{16}$
D. $\frac{11}{24}$

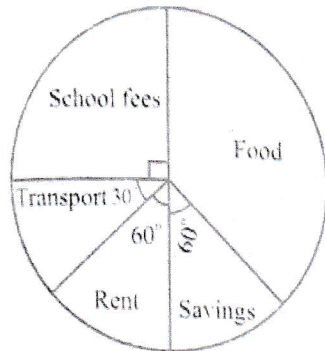
27. The cost of three textbooks is sh 1245. What is the cost of seven such textbooks?

A. Sh 8715
C. Sh 2590
B. Sh 2835
D. Sh 2905

28. The cash price of a machine is 20% less than hire purchase price and requires a deposit of sh 45000 followed by 8 monthly instalments of sh 9000. What is the cash price of the machine?

A. Sh 137000
 B. Sh 117000
 C. Sh 93600
 D. Sh 97500

29. The following pie chart shows how Barasa spent his salary.



If he spent sh 36000 on food, how much more did he spend on school fees than on rent?

A. Sh 27000
 B. Sh 45000
 C. Sh 18000
 D. Sh 9000

30. Lincholin bought the following items from the shop

3-500ml packets of milk @ sh 80 per litre
 2kg of sugar for sh 270

2 rolls of tissue paper at sh 30

$1\frac{1}{2}$ litres of cooking oil @ sh 400.

If he paid for the items using two sh1000 notes, how much balance did he receive?

A. Sh 1020
 B. Sh 950
 C. Sh 1170
 D. Sh 830

31. The mean masses of six std 8 boys is 50.5kg. The mass of the first five boys are: 46kg, 58kg, 55kg, 47kg and 50kg. What is the mass of the sixth boy?

A. 47kg
 B. 57kg
 C. 50.5kg
 D. 53kg

32. What is the next number in the sequence?

0.2, 0.3, 0.5, 0.7, _____

A. 0.9
 B. 1.0
 C. 1.2
 D. 1.1

33. A road 12km long was drawn on a map using the scale 1:200000. What is the length of the road on the map?

A. 12cm
 B. 24cm
 C. 6cm
 D. 60cm

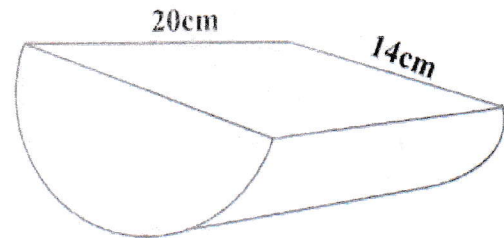
34. Using a pair of compasses and a ruler only, construct triangle ABC where line AB=7cm, angle ABC=45° and line BC=6cm. Join A and C. What is the size of angle CAB?

A. 77°
 B. 135°
 C. 58°
 D. 103°

35. The price of petrol decreased from sh 90 per litre to sh 81 per litre. What was the percentage decrease on the price?

A. $11\frac{1}{9}\%$
 B. 10%
 C. 9%
 D. 90%

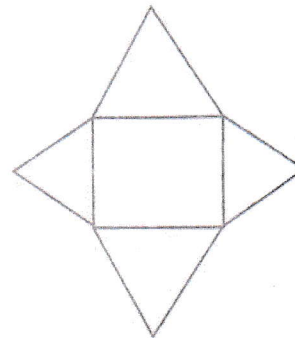
36. The figure below shows a trough of water.



What is the total surface area in cm²?

A. 1034
 B. 1314
 C. 874
 D. 957

37. The figure below shows a net of a certain solid.

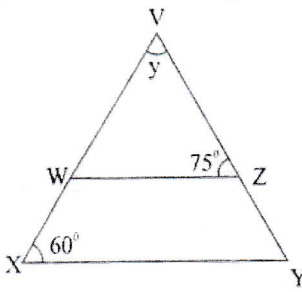


Which solid can be formed from the net above?

A. Rectangular pyramid
 B. Square based pyramid
 C. Square based prism
 D. Rectangular prism

38. In Kamkunji constituency three candidates contested for a parliamentary seat. Amanda got 33450 votes, Phoebe got 12680 less votes than Amanda while Alice got 26940 votes. If there were 915 spoilt votes, how many votes were cast altogether?

A. 81160
 B. 107435
 C. 106520
 D. 82075

39. Joseph had sh 7500. He changed all the money equal number of sh 100 notes and sh 50 notes. How many notes did he get?
 A. 50 B. 75
 C. 100 D. 150
40. Sonie paid sh 20400 for a radio after getting a 15% discount. How much discount was she given?
 A. Sh 24000 B. Sh 3600
 C. Sh 3060 D. Sh 17340
41. A dining hall 8m long by 6.5m wide by 3m high had its all walls painted. What is the total surface area that was painted?
 A. 139m^2 B. 87m^2
 C. 191m^2 D. 156m^2
42. Kim, Mwai and Moi shared some money. Kim got $\frac{2}{7}$ of the money and Mwai got $\frac{2}{3}$ of the remainder. Moi got the rest. If Moi got sh1260, how much did Mwai get?
 A. Sh 5292 B. Sh 2646
 C. Sh 300 D. Sh 2520
43. What is the size of angle marked y in the figure below if WZ is parallel to XY
- 
- A. 60° B. 45°
 C. 75° D. 135°
44. A cylindrical tank 3m high can carry 18480 litres of water when completely full. What is the diameter of the tank? (Take $\pi = \frac{22}{7}$)
 A. 0.7m B. 2.8m
 C. 1.4m D. 6.16m
45. In St. Earnest Medical clinic, the number of people who were vaccinated against covid-19 on January 2022 were 600. In February, the number of people who received the vaccine increased by 30%. How many people were vaccinated on February?
 A. 780 B. 420
 C. 461 D. 180
46. A patient was admitted on 13th May and later discharged on 11th July the same year. For how many days was the patient admitted in the

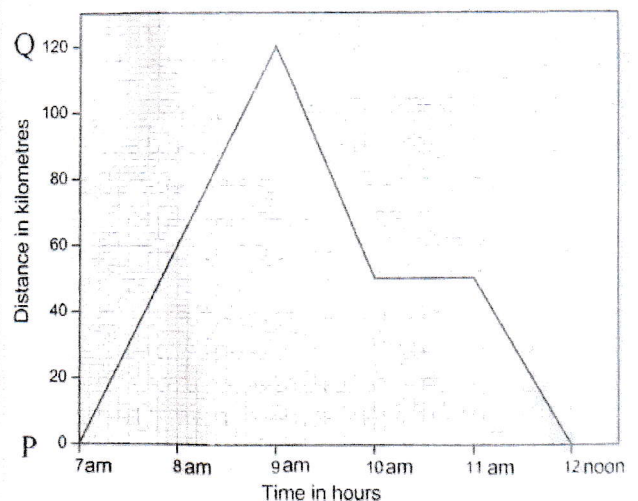
hospital?

- A. 58 B. 61
 C. 60 D. 59
47. What is the square of $6\frac{1}{4}$?
 A. $2\frac{1}{2}$ B. $36\frac{1}{16}$
 C. $39\frac{1}{16}$ D. $49\frac{1}{16}$
48. Construct triangle XYZ where $XY=5\text{cm}, YZ=XZ=4.5\text{cm}$. Draw a circle touching line XY, YZ and XZ. What is the diameter of the circle?
 A. 5.0cm B. 2.7cm
 C. 5.4cm D. 2.5cm
49. The table below shows the postal rates for sending money orders.

Value of money order (sh)	Commission (sh)
Not exceeding 1000	70
1001-2000	120
2001-5000	135
5001-8000	200
8001-15000	350
15001-20000	420
20000-35000	550

Seth wanted to send sh 25000 to his son and sh 6000 to his daughter. He sent the money using one money order. How much more would he have spent had he bought two separate money orders.

- A. Sh 200 B. Sh 750
 C. Sh 550 D. Sh 31750
50. The graph below shows a motorist journey from town P to Q and back



What is the motorist's average speed for the whole journey?

- A. 60km/h B. 40km/h
 C. 50km/h D. 48km/h