

KCPE NOVEMBER 2023 PREDICTION MASTER CYCLE 1

5160031

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

1. Which one of the following numbers is thirty-seven million, five hundred and forty thousand three hundred and eight written in symbols?
 - A. 3754308
 - B. 307540308
 - C. 37540308
 - D. 37540038
2. What is 579.4965 rounded off to the nearest hundredths?
 - A. 579.5000
 - B. 579.50
 - C. 579.4917
 - D. 579.5
3. Which one of the following statements is correct?
 - A. $\frac{5}{4} > 0.5$
 - B. $\frac{3}{5} < 0.6$
 - C. $\frac{3}{4} > 0.83$
 - D. $\frac{3}{8} > 3.4$
4. What is the total value of digit 7 in the number 60754283
 - A. Hundred thousands
 - B. 7000000
 - C. 70000
 - D. Seven hundred thousand
5. Work out :

$$180 \div (58 - 46) + 15 \times 4 - 60 \div 15 + 1$$
 - A. 72
 - B. 76
 - C. 70
 - D. 71
6. Which is the correct order of writing fractions $\frac{6}{7}$, $\frac{2}{3}$, $\frac{7}{12}$, $\frac{3}{4}$ from the smallest to the largest.
 - A. $\frac{6}{7}$, $\frac{3}{4}$, $\frac{2}{3}$, $\frac{7}{12}$
 - B. $\frac{6}{7}$, $\frac{2}{3}$, $\frac{7}{12}$, $\frac{3}{4}$
 - C. $\frac{2}{3}$, $\frac{3}{4}$, $\frac{6}{7}$, $\frac{7}{12}$
 - D. $\frac{7}{12}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{6}{7}$
7. What is the value of $\frac{4}{5}$ of $(3\frac{1}{2} - 1\frac{3}{4}) - \frac{1}{5} + 2\frac{1}{2} \div 1\frac{1}{4}$?
 - A. $3\frac{1}{5}$
 - B. $1\frac{3}{5}$
 - C. $5\frac{1}{3}$
 - D. 2
8. Which of these numbers has the largest value
 - A. 9806978
 - B. 9807896
 - C. 9808796
 - D. 9809678
9. What is the value of M in the equation $\frac{3m-5}{4} + \frac{2m+3}{3} = 4$
 - A. 2
 - B. 3
 - C. 4
 - D. 6
10. A pickup has a mass of 3.9 tonnes when empty. It has a mass of 7.0 tonnes when loaded with 50 kilogram bags of fertilizer. How many bags were loaded?
 - A. 62 bags
 - B. 68 bags
 - C. 130 bags
 - D. 198 bags
11. The hire purchase price of a T.V. is 20% more than the cash price. Njiriri bought it on H.P. by paying a deposit of sh. 6000 and equal monthly installments of sh. 800 each for 18 months. What was the cash price?
 - A. sh. 14400
 - B. sh. 20400
 - C. sh. 16320
 - D. sh. 17000

12. A square piece of land has an area of 2304m^2 . A square garden is made in the piece of land leaving a path 4m wide all the way round the garden. What is the length of each side of the garden?

A. 44m

B. 46m

C. 56 m

D. 40m

13. Miteo uses $\frac{1}{2}$ of his shamba for growing cotton, $\frac{1}{2}$ of the remainder for tea and the rest for maize. If tea occupy 4 hectares, how big is the land?

A. 12 hectares

B. 18 hectares

C. 16 hectares

D. 24 hectares

14. What is the value of $\frac{(x-3)^2 + 2z}{y+4}$

where $x = 5$, $y = x + 3$, $z = 2x + y$

A. $3\frac{1}{8}$

B. $3\frac{1}{3}$

C. $2\frac{1}{4}$

D. $4\frac{1}{3}$

15. If a hawker sells a television for sh. 45000, he makes a loss of 10%. For how much should he sell the T. V in order to make a 20% profit?

A. sh. 60000

B. sh. 15000

C. sh. 50000

D. sh. 80000

16. The table below shows the number of times the teams Chelsea, Man U and Arsenal won, drew or lost in a competition. Three points were awarded for each match won, one point for each match drawn and no point for a match lost:

	Chelsea	Man U	Arsenal
WON	16	20	24
DRAW	14	9	6
LOST	8	9	8

Which team won the championships?

A. None

B. Arsenal

C. Man U

D. Chelsea

17. A certain quadrilateral has the following properties:-

i. Has two pairs of parallel lines.

ii. Diagonals are not equal.

iii. Diagonals bisect at 90°

iv. All sides are equal.

The quadrilateral above is likely to be

A. Square

B. Parallelogram

C. Rhombus

D. Rectangle

18. Which one of the following sets of measurements can be used to construct a right angled triangle?

A. $4\frac{1}{2}$ cm, 6cm, 9cm

B. $3\frac{3}{4}$ cm, $5\frac{1}{4}$ cm, 6cm

C. $2\frac{1}{4}$ cm, 3cm, $3\frac{3}{4}$ cm

D. $5\frac{1}{4}$ cm, 9cm, $11\frac{1}{4}$ cm

19. The distance between two towns is 250km. If the distance is represented on a map by a line 5cm, what is the scale used on the map?

A. 1 : 5000

B. 1 : 50000

C. 1 : 500000

D. 1 : 5000000

20. A sales agent is paid a basic salary of sh. 25000 and 8% commission on goods above sh. 70000. In one month her total sales were sh. 915000. What was her total earnings that month?
- A. sh. 73200
 B. sh. 98200
 C. sh. 92600
 D. sh. 10000
21. The volume of water in pond is 9068m^3 . What is the amount of water in litres
- A. 90680000
 B. 9068000
 C. 906800
 D. 90680
22. What is the greatest common divisor (GCD) of the numbers 36, 48 and 72
- A. 12
 B. 144
 C. 360
 D. 180
23. Tap x can fill an empty tank in 16 minutes while tap y can empty the same tank in 24 minutes. If both taps are opened, how long will it take to fill the tank?
- A. 24min.
 B. 36min.
 C. 12min.
 D. 48min.
24. Jemima slept at 2315hr. on Sunday and woke up 8 hours 45 minutes later. On what day and time did she wake up?
- A. Mon. 8.00p.m.
 B. Sunday 8.00p.m.
 C. Mon. 8.00a.m.
 D. Sunday 8.00 a.m.

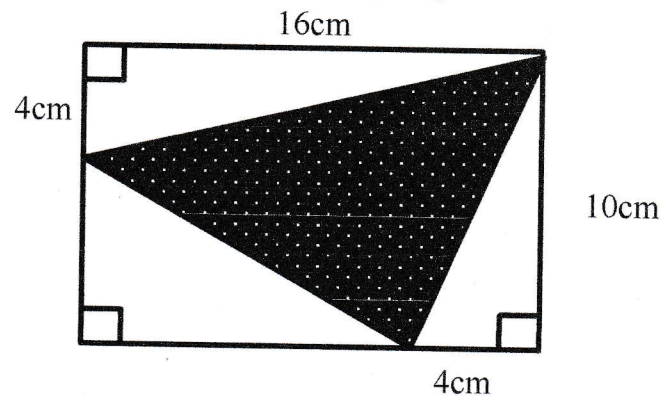
25. A rectangular container measures 75cm by 50cm by 1m. What is the capacity of the container in litres?
- A. 3750L
 B. 37.5L
 C. 375L
 D. 3.75L

26. What is the next number in the sequence below:

28, 38, 58, 88, _____

- A. 98
 B. 108
 C. 118
 D. 128

27. Find the area of the shaded part:



- A. 160cm^2
 B. 72cm^2
 C. 88cm^2
 D. 100cm^2
28. Rodrick bought the following items from Kutus market:
- $2\frac{1}{2}$ kg of meat @ sh. 140
 2 – 2kg tins of cocoa at sh. 180
 750ml of milk at sh. 100 per litre
 $1\frac{3}{4}$ litres of paraffin for sh. 175.
- He paid using a sh. 1000 note. Calculate his balance:
- A. sh. 50
 B. sh. 140
 C. sh. 40
 D. sh. 960

29. Kirimi had 1200 animals of which 0.5 were poultry, 0.3 were cattle and the rest were birds. He increased the number of cattle by 0.25 increased birds by 0.5 and decreased the number of poultry by 0.2. How many animals did he finally have?

- A. 1290
- B. 1860
- C. 946
- D. 1590

30. Pupils in a class planted seedlings as follows:-

9 11 7 8 6 10 7
8 10 12 6 4 9 12

What was the mean number of seedlings planted by each pupil?

- A. 119
- B. $8 \frac{1}{2}$
- C. 9
- D. 8

31. In a store there are 15 more bananas than cabbages. Apples are thrice as many as cabbages. If there are b bananas, which expression represents the total number of items in the store?

- A. $5b - 60$
- B. $3b - 27$
- C. $5b + 60$
- D. $5b - 30$

32. What is the value of $\frac{2^2 (3^2 + 4^2) - 5^2}{5^2 - 4^2}$

- A. 5
- B. 9
- C. $8 \frac{1}{3}$
- D. 9

33. The table below shows inland postal charges for letters:-

Weight of letter	Sh.	cts.
Upto 20g	35	00
Over 20g upto 50g	40	00
Over 50g upto 100g	45	00
Over 100g upto 250g	60	00
Over 250g upto 500g	85	00

Miller posted two letters each weighing 42g and another one weighing 400g. How much money did he pay at the post office?

- A. sh. 210
- B. sh. 125
- C. sh. 165
- D. sh. 80

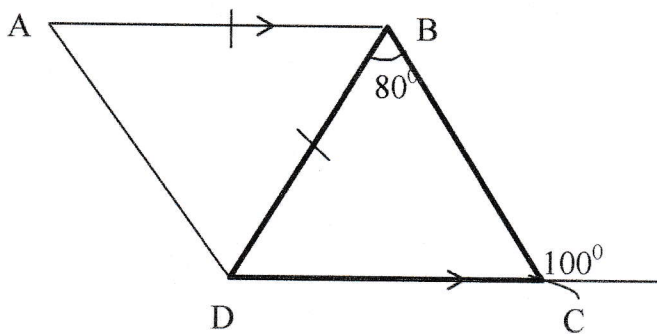
34. Mr Munene deposited sh 90000 in a bank which paid compound interest at the rate of 12% p.a. At the end of 18 months he withdrew the all his money. How much money did he withdraw?

- A. Sh 16848
- B. Sh 106848
- C. Sh 16200
- D. Sh 106200

35. During a thanks giving meeting in a county, 2000 men were present. There were 1030 more women than men and twice as many children as adults. What is the total attendance in the thanksgiving ceremony ?

- A. 5030
- B. 15090
- C. 3030
- D. 10060

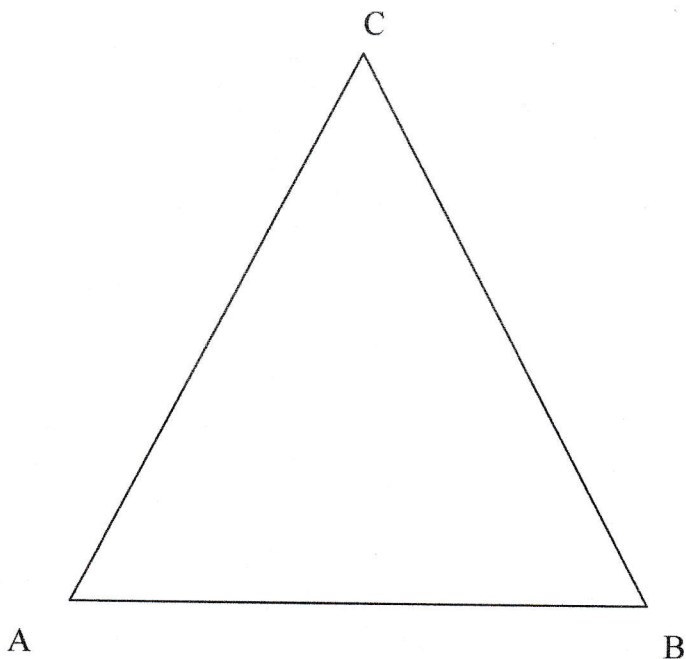
36. In the figure below, line AB is parallel to line CD. Angle CBD = 80° and angle BCE = 100° . Line AB = line BD



E

What is the size of angle CDA?

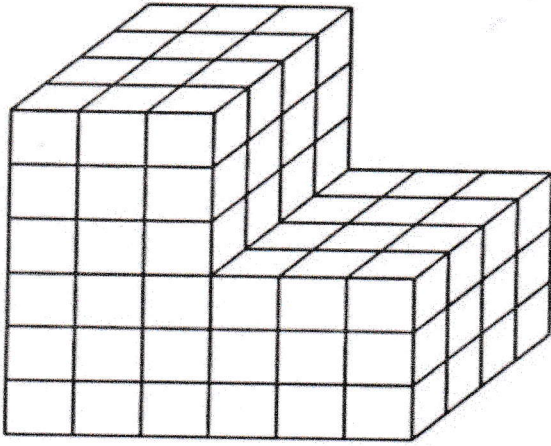
- A. 100°
 B. 70°
 C. 130°
 D. 110°
37. Fifteen women can weed a piece of land in 12 days. How many more women will be required to clear the same land in 10 days?
- A. 3
 B. 6
 C. 12
 D. 18
38. In the triangle ABC shown below, construct a circle that touches the three sides of the triangle



What is the radius of the circle?

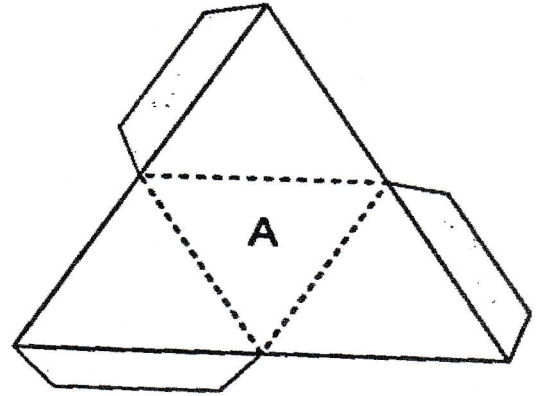
- A. 2.4 cm
 B. 4.8 cm
 C. 4.6 cm
 D. 9.2 cm
39. In a school $\frac{2}{5}$ of the pupils are girls. One day $\frac{3}{20}$ of the boys were absent. The total number of boys present that day was 255. Find the total number of pupils in the school?
- A. 500
 C. 300
 B. 555
 D. 120
40. A school compound is in square shape. The area of the compound is 36 hectares. What is the length of each side of the compound in metres?
- A. 60 000m
 B. 6m
 C. 60m
 D. 600m
41. Clifford was admitted in hospital in the morning of 9th January 2019 and discharged on the evening of 29th April the same year. How many nights did he spend in the hospital?
- A. 110
 B. 109
 C. 111
 D. 112

42. How many cubes are needed to complete the stack below into a cube



- A. 144
 B. 108
 C. 36
 D. 72
43. In a school the ratio of boys to girls is 3:4. In an examination $\frac{3}{4}$ of girls passed the examination. If 240 girls passed the examination how many boys were there in the school?
- A. 240
 B. 320
 C. 560
 D. 80
44. Irene paid sh 19000 for a television after getting a 5% discount on the marked price. How much would she have paid if she had been given a 10% discount?
- A. Sh 1000
 B. Sh 18000
 C. Sh 17100
 D. Sh 17000

45. Below is a net of a solid made up of four equilateral triangles. The net was folded to form a solid.



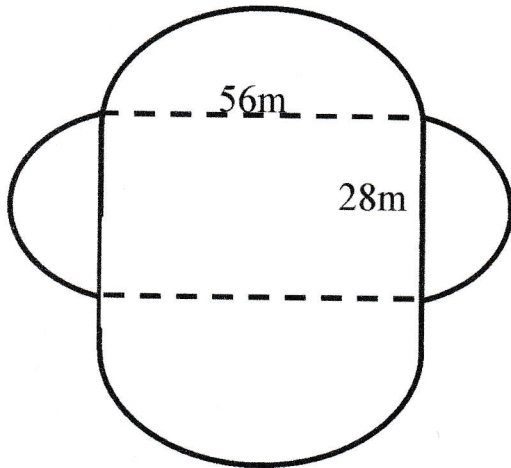
Which solid was formed?

- A. Triangular prism
 B. Triangular wedge
 C. Rectangular pyramid
 D. Triangular pyramid
46. A watch gains five seconds every hour. It is set right on Sunday 10.45pm. What time will it show the following Sunday at 10.45pm?
- A. 10.59am
 B. 10.31pm
 C. 10.31am
 D. 10.59pm
47. What is the surface area of an open cylinder whose radius is 28 cm and a height of 23 cm? (Take $\pi = \frac{22}{7}$)
- A. 2640 cm^2
 B. 3256 cm^2
 C. 8576 cm^2
 D. 6512 cm^2

48. A pastoralist had the following animals in his farm: 12 camels, 18 cows, 14 donkeys and 16 ducks. If the information was represented in a pie chart, what angle would represent ducks?

- A. 84°
- B. 64°
- C. 96°
- D. 108°

49. The diagram below represents a plot of land which is in the shape of a rectangle and semi-circles. (Take $\pi = \frac{22}{7}$)



What is the area of the land in square metres?

- A. 3080
- B. 1568
- C. 4340
- D. 4648

50. Construct triangle ABC such that line AB = 6.5cm line BC = 5.8cm and line AC = 5.7cm. Bisect angle ABC and let the bisector meet line AC at P. What is the length of line AP?

- A. 3.2 cm
- B. 2.5 cm
- C. 5.4 cm
- D. 4.0 cm