

KCPE NOVEMBER 2023 PREDICTION MASTER CYCLE 13

51600313

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.



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This question paper consists of 8 printed pages.

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

1. What is four million four hundred thousand and four and four thousandths written in symbols?
- A. 4400040.004
 B. 4400004.004
 C. 4004004.004
 D. 4404000.004
2. What is the value of;
 $\frac{10.8}{0.08} - \frac{2}{0.05} + \frac{46}{0.23}$?
- A. 259
 B. 295
 C. 145
 D. 147.5
3. What is the value of;
 $\frac{1}{4}$ of $\left(\frac{4}{5} - \frac{1}{3}\right) \div 1\frac{2}{5}$?
- A. $\frac{1}{12}$
 B. $\frac{1}{24}$
 C. $\frac{1}{6}$
 D. $\frac{7}{6}$
4. The area of a square plot is 19.36 Ares.
 What is the perimeter of the plot in metres?
- A. 44m
 B. 4.4m
 C. 17.6m
 D. 176m
5. What is the next number in the pattern;
 $\frac{1}{2}, 1\frac{1}{4}, 2, 2\frac{3}{4}, \dots$?
- A. $3\frac{1}{4}$
 B. $4\frac{3}{4}$
 C. $3\frac{1}{2}$
 D. $4\frac{1}{2}$
6. Which of the following numbers is not divisible by 11?
- A. 557051
 B. 756151
 C. 406857
 D. 108621
7. Caleb stayed with his grandmother from the afternoon of 16th June upto the afternoon of 15th September. How many mornings did he stay there?
- A. 90
 B. 89
 C. 91
 D. 92
8. In the month of July, a creamery collected 1980 litres of milk. This was a 10% more than the milk collected in June how many litres were collected in June?
- A. 2178L
 B. 1800L
 C. 180L
 D. 198L
9. What is the value of x in the equation;
 $\frac{4x - 6}{2} = \frac{5x + 4}{3}$?
- A. 10
 B. 13
 C. 26
 D. 20

10. What is the product of the faces and the edges of a triangular based pyramid?

- A. 96
- B. 14
- C. 24
- D. 60

11. The height of seven metal rods was recorded as follows; 54cm, 55cm, 52cm, 58cm, 56cm, 59cm and 51cm. What is the difference between the mean and the median heights of the metal rods?

- A. 55
- B. 110
- C. 3
- D. 0

12. What is the value ; $\frac{p(3q^2 - 2r^2)}{rq}$

if $p = 6$, $q = r + 1$, $r = \frac{1}{2}p$?

- A. 54
- B. 9
- C. 15
- D. $2\frac{1}{2}$

13. A class has 60 pupils. Each pupil takes 3dl of milk daily. How many millilitres of milk do the pupils take in seven days?

- A. 180ml
- B. 1260ml
- C. 1260000ml
- D. 126000ml

14. What is the value of; $1392464 \div 58$?

- A. 24008
- B. 2408
- C. 20048
- D. 2048

15. What is the value of;

$$\frac{3.6 \div (1.2 \times 3) - 0.11 \times 4 + 0.6 \div 0.15}{0.01} ?$$

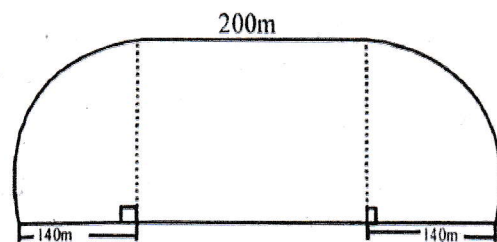
- A. 4.56
- B. 45.6
- C. 456
- D. 0.456

16. In a meeting, $\frac{1}{4}$ of those who attended

were men, $\frac{1}{6}$ of the remainder were women and the rest were children. If there were 84 women, how many men and children attended the meeting?

- A. 420
- B. 588
- C. 168
- D. 672

17. Kipsang ran round the track below thrice. What distance in kilometers did he cover?

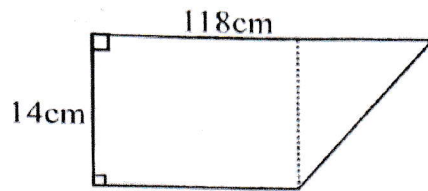


- A. 1.02km
- B. 3.36km
- C. 0.84km
- D. 2.52km

18. The actual length of a road is 56km. It is represented by a line 11.2cm long on a map. What scale was used on the map?

- A. 1:5000
- B. 1:50000
- C. 1:5000000
- D. 1: 500000

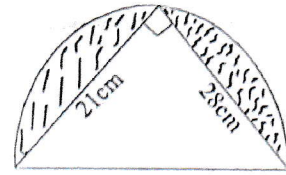
19. The area of the trapezium below is 1316cm^2 .



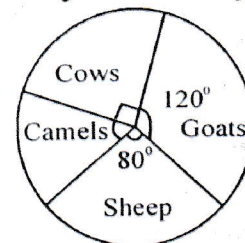
What is its perimeter?

- A. 252cm
 B. 202cm
 C. 236cm
 D. 262cm
20. Mogaka has a rectangular piece of land measuring 360m by 240 m. He fenced it by fixing poles 20m apart. How many poles did he use?
- A. 56
 B. 58
 C. 60
 D. 64
21. Edwin had m bananas. Mwathi had 3 more bananas than Edwin while Joy had 2 more bananas than both Edwin and Mwathi. How many bananas did they have altogether?
- A. $4m + 8$
 B. $2m + 5$
 C. $4m + 3$
 D. $3m + 8$
22. Lawina, Henry and Benson contributed money in the ratio of 2:5:9 respectively. If they all contributed a total of sh. 128000, what was the difference between Henry's and Benson's contribution?
- A. Sh. 72000
 B. Sh. 54000
 C. Sh. 40000
 D. Sh. 32000

23. What is the area of the shaded part in the figure below?



- A. 481.25cm^2
 B. 294cm^2
 C. 187.25cm^2
 D. 308cm^2
24. What is the value of;
- $$\frac{2.8 \times 1.6 \times 2.6}{3.2 \times 5.2 \times 0.14} ?$$
- A. 3
 B. 5
 C. 2
 D. 4
25. Jeremy spends $\frac{2}{5}$ of his salary on clothes, $\frac{1}{10}$ on rent, $\frac{2}{3}$ of the remainder on food and saves the rest. If he saves sh. 1200, how much is his total salary?
- A. Sh. 2880
 B. Sh. 7200
 C. Sh. 6000
 D. Sh. 2400
26. The pie chart below represents the number of animals in a farm.



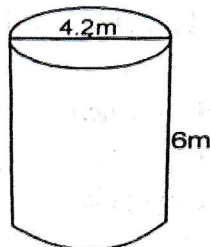
- If there were 900 more goats than cows, how many camels and sheep were there altogether?
- A. 4500
 B. 4800
 C. 2400
 D. 3000

27. Construct triangle ABC such that line AB = 8cm, line BC = 6 and angle CBA = 70°. Draw a circle that touches the edges of the triangle. What is its diameter?
 A. 2.1cm
 B. 5.0cm
 C. 2.6cm
 D. 4.2cm

28. What is the simplified form of;

$$\frac{1}{2}(5x + 4y) + \frac{1}{3}(2x + 7y) + \frac{1}{4}x - \frac{1}{2}y?$$

- A. $2\frac{1}{2}x + 2y$
 B. $3\frac{5}{12}x + 3\frac{5}{6}y$
 C. $3\frac{5}{12}x - 3\frac{5}{6}y$
 D. $3\frac{1}{6}x + 4\frac{1}{3}y$
29. Atieno bought the following items from a supermarket;
 - 3 kg of sugar @ sh. 45
 - 2 packets of salt @ sh. 12
 - 2 loaves of bread @ sh. 40
 - $\frac{1}{2}$ kg of cooking fat @ sh. 100 per kg
 - 2 packets of tea leaves for sh. 30
 If she paid using 2 - 200 shilling notes, what balance did she get?
 A. Sh. 31
 B. Sh. 34
 C. Sh. 81
 D. Sh. 51
30. What is the capacity of the water tank below in litres?



- A. 83.16L
 B. 831600L
 C. 0.08316L
 D. 83160L

31. Musyoka borrowed sh. 12000 from a financial institution at a simple interest rate of 15% per month. How much did he pay back after 8 months?
 A. Sh. 26400
 B. Sh. 14400
 C. Sh. 13200
 D. Sh. 1200

32. Clinton earns a basic salary of sh. 4000 per month. He is paid a 5% commission on goods sold above sh. 20000. In one month he earned a total of sh. 6925. What was the value of goods sold?
 A. Sh. 58500
 B. Sh. 3925
 C. Sh. 38500
 D. Sh. 78500

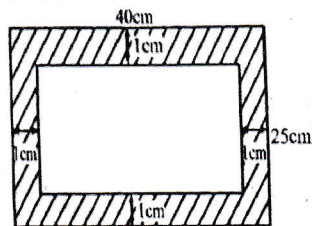
33. The volume of a closed cylindrical tank whose height is 4cm is 154cm³. Calculate the curved surface area of the tank?
 A. 38.5cm²
 B. 88cm²
 C. 165cm²
 D. 3.5cm²

34. Kariuki bought a radio for sh. 1200 after a 20% discount was allowed. How much would he have paid if a 10% discount was allowed?
 A. Sh. 1500
 B. Sh. 1320
 C. Sh. 1350
 D. Sh. 1100

35. Jane bought a wardrobe whose cash price was sh. 18000 on hire purchase terms. The hire purchase price was 20% more than cash price. If she paid 12 equal monthly installments of sh. 500 each, how much did she deposit?
 A. Sh. 21600
 B. Sh. 15600
 C. Sh. 6000
 D. Sh. 12000

36. During an election, the winning candidate got 0.531 of the votes, the second candidate got 0.272 and the third candidate got 0.157 of the total votes. If 5600 votes were spoiled, how many votes were cast altogether?
- A. 7434
B. 21980
C. 18000
D. 140000

37. What is the area of the shaded part in the figure below?



- A. 1000cm^2
B. 874cm^2
C. 126cm^2
D. 64cm^2
38. A motorist travelled a distance of 200km at an average speed of 40km/hr. On his return journey, the speed increased by 60km/h. If he had spend one hour resting, what was his average speed for the whole journey?
- A. 100km/h
B. 50km/h
C. $57\frac{1}{7}\text{km/hr}$
D. 25km/hr
39. A watch gains 5 seconds every hour. If it was set right on Friday at noon, what time will it show the following Friday at 1200hrs?
- A. 12:14pm
B. 12:08pm
C. 12:08am
D. 12:14am

40. The table below shows the fare table in shillings between different towns. A child pays half the fare of an adult.

A						
50	B					
80	60	C				
110	90	70	D			
140	120	100	80	E		
170	150	130	110	90	F	
200	180	160	140	120	40	G

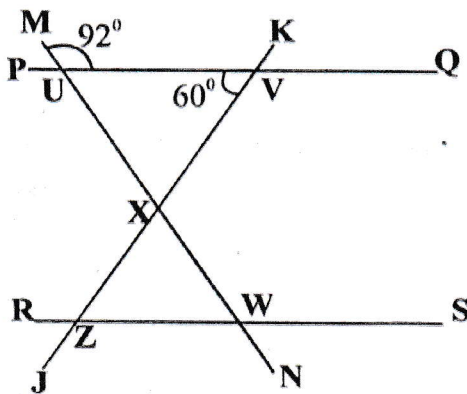
Wanjohi, his wife and their three children travelled from Town A to Town G via Town D. How much did they pay for the whole journey?

- A. Sh. 835
B. Sh. 635
C. Sh. 735
D. Sh. 875
41. Tap A fills a tank in 3 minutes. Tap B fills the same tank in 5 minutes while tap C can empty the tank in 6 minutes. What fraction of water was in the tank after 2 minutes if all the three taps started running at the same time?
- A. $\frac{11}{30}$
B. $\frac{11}{15}$
C. $2\frac{8}{11}$
D. $1\frac{4}{11}$
42. A school has 1200 students. 40% of them are boys. At the end of one year, the number of boys increased by 20% while that of girls decreased by 20%. What is the new population of students in the school?
- A. 1152
B. 576
C. 480
D. 720

43. Kanini and Munene shared some mangoes. If Kanini got $\frac{3}{5}$ of the mangoes, what was the ratio of Munene to Kanini's mangoes?
- A. 3:2
 B. 2:5
 C. 2:3
 D. 2:7

44. A packet of tea leaves weighs 120g. What is the mass of 2500 such packets in tonnes?
- A. 3t
 B. 3000t
 C. 0.03t
 D. 0.3t

45. In the figure below line PQ is parallel to line RS. Line JK and line MN are transversals.



What is the size of angle ZXW?

- A. 88°
 B. 60°
 C. 32°
 D. 48°

46. The following are properties of quadrilaterals.
- (i) Has all sides equal.
 (ii) Diagonals bisect at right angles.
 (iii) Diagonals are equal and angle bisectors.
 (iv) Opposite angles are equal.
 (v) All angles are equal.
 (vi) Opposite sides are equal and not parallel.

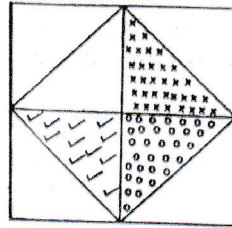
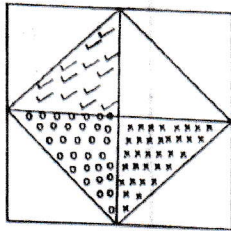
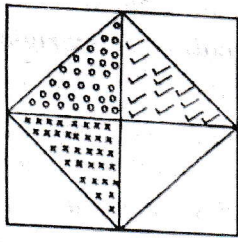
Which of the following shows properties of both square and rhombus?

- A. (i), (ii), (iii)
 B. (ii), (iii), (vi)
 C. (i), (ii), (v)
 D. (i) and (ii)
47. 18 men can cultivate a piece of land in 12 days. How many more men are required to cultivate the land in 9 days?
- A. 24
 B. 6
 C. 21
 D. 3

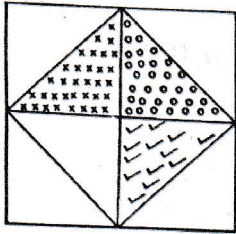
48. A wheel covered a distance of 22 metres after making 50 revolutions. What was the radius of the wheel?
- A. 14cm
 B. 44cm
 C. 7cm
 D. 28cm

49. What is the smallest number that can be divided by 16, 18 and 32 without a remainder?
- A. 162
 B. 320
 C. 288
 D. 2

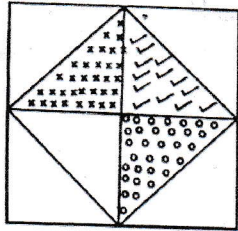
50. What is the next shape?



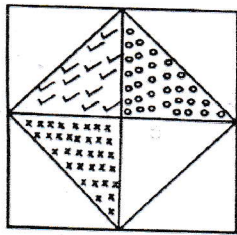
A.



B.



C.



D.

