



TARGETER KCPE PREDICTION

STANDARD EIGHT - YEAR 2022



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 the question booklet.

HOW TO USE THE ANSWER SHEET.

4. Use 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 your answer 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, 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:

31. Work out: $\frac{8^2 + \sqrt{256}}{5}$

- A. 18
- B. 24
- C. 80
- D. 16

The correct answer is **D**.

On the Answer sheet:

1 [A] [B] [C] [D] 21 [A] [B] [C] [D] 31 [A] [B] [C] [D] 43 [A] [B] [C] [D]

In the set of boxes number 31, the box with 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.

KCPE FIRST PREDICTION



This question paper consists of 8 printed pages.



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TURN OVER

1. Which one of the following numbers is one hundred and six thousand eight hundred and eight and eight thousandths?
 A. 1006808.08
 B. 106808.008
 C. 106808.08
 D. 1060808.008
2. What is the value of $\frac{46 - 3(8 - 2^2) + 7 \times 6 \div 3}{4^2 - 2^2}$?
 A. $1\frac{2}{3}$
 B. 60
 C. 4
 D. 5
3. What are the second and the fifth fractions obtained when the fractions $\frac{3}{4}, \frac{5}{11}, \frac{3}{8}, \frac{6}{7}$ and $\frac{2}{5}$ are arranged in ascending order?
 A. $\frac{2}{5}, \frac{3}{4}$
 B. $\frac{2}{5}, \frac{8}{11}$
 C. $\frac{6}{7}, \frac{2}{5}$
 D. $\frac{2}{5}, \frac{6}{7}$
4. What is the value of $(4\frac{1}{2} - 2\frac{1}{4} + 1\frac{1}{2} \div \frac{3}{2}) + 3\frac{1}{4}$?
 A. 1
 B. $\frac{5}{13}$
 C. $\frac{10}{13}$
 D. $3\frac{3}{4}$
5. In a race, Korir takes 15 minutes, Muteti takes 18 minutes while Koech takes 30 minutes to run round the village in a cross country. If the three athletes start together, after how many seconds will they race together again?
 A. 90
 B. 63
 C. 5400
 D. 3780
6. A farmer had 560 ducks. He sold $\frac{5}{7}$ of the ducks on the first day and then sold $\frac{1}{5}$ of the remainder the following day and the rest on the third day. How many more ducks did he sell on third day than the second day?
 A. 128
 B. 96
 C. 32
 D. 48
7. How many days were there from 3rd January to 23 April in the year 2020?
 A. 111
 B. 110
 C. 113
 D. 112
8. What is twice the value of $\frac{12 - 0.6 \times 0.4 + 3.24}{0.3}$?
 A. 50
 B. 100
 C. $61\frac{11}{15}$
 D. 5
9. What is the next number in the pattern: $\frac{1}{4}, \frac{1}{2}, \frac{7}{8}, 1\frac{1}{2}, 2\frac{3}{8}, \dots$?
 A. $3\frac{1}{2}$
 B. $3\frac{3}{8}$
 C. $3\frac{3}{4}$
 D. $4\frac{1}{4}$
10. Which of the following statement is true?
 A. $\frac{6}{7}$ is less than 0.85
 B. 0.85 is equal to $\frac{6}{7}$
 C. 0.85 is greater than $\frac{6}{7}$
 D. $\frac{6}{7}$ is greater than 0.85

11. In an election 600 people participated in voting. Out of these 0.14 voted for candidate *X*, 0.2 for candidate *Y* while $\frac{2}{3}$ of the remaining people voted for candidate *Z*. The rest cast votes were declared invalid. How many people casted invalid votes?

A. 264
B. 132
C. 84
D. 400

12. The bus fare from one town to another was decreased by 20% and later increased by 20%. If the original fare was sh. 200, what was the new fare?

A. sh. 192 B. sh. 200
C. sh. 288 D. sh. 300

13. The diagonal of a rectangular flower garden is 17m. The length is 15m. What is the perimeter of the flower garden?

A. 64m B. 23m
C. 46m D. 255m

14. The height of an isosceles triangle is 6cm. Each of the two equal sides measures 10cm.



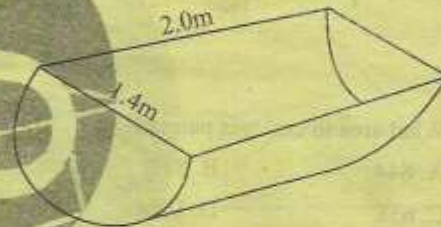
What is the area of the triangle?

A. 96cm^2 B. 48cm^2
C. 30cm^2 D. 24cm^2

15. A rectangular water tank whose base is square of sides 2.0m is to be filled using 50 litres containers. How many such containers will be required to fill the tank to a height of 2m?

A. 16
B. 1600
C. 1.6
D. 160

16. The figure below is a trough of diameter 1.4m and a length of 2.0m



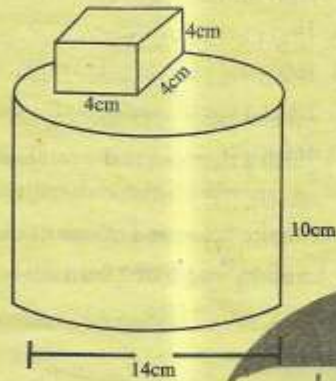
What is its volume in cm^3 ?

A. 1540000
B. 154000
C. 1540
D. 154

17. A matatu left Thika for Mombasa at 1745h on Tuesday. The Journey took 10 hours 35 minutes. What time and day did it reach Mombasa?

A. Tue 1620h
B. Wed 1620h
C. Wed 0420h
D. Tue 0420h

18. The diagram below represents a metal solid made up of a cube of sides 4cm fixed onto a cylindrical bar 10cm long and diameter of 14cm. The surface of the solid was painted.

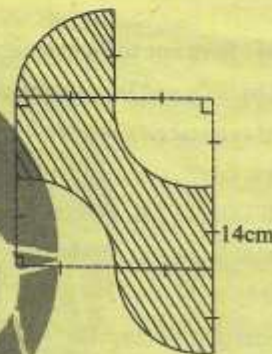


What area in cm^2 was painted?

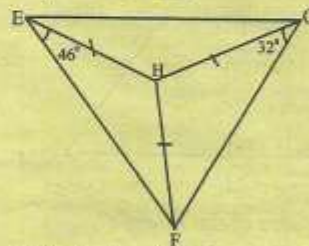
- A. 844 B. 812
C. 658 D. 1604
19. The mass of an empty lorry is 7.2 tonnes. Its total mass when loaded with bags of beans each 80kg is 13.6 tonnes. How many bags were loaded?
- A. 17 B. 170
C. 80 D. 260
20. John and Musa left town K at the same time. John drove at an average speed of 90km/h and reached town L after 4 hours. Musa drove at an average speed of 80km/h for $1\frac{1}{2}$ hours and continued with the journey at an average speed of 60km/h. How many kilometres had Musa to cover at the time John reached town L?
- A. 270 B. 110
C. 240 D. 90

21. Tree seedlings are planted at equal interval of 10m apart along one side of a road. A total of 201 seedlings were planted. What is the total distance between the first and the last seedlings in km?
- A. 2000
B. 2.01
C. 2010
D. 2

22. What is the area of the shaded part?

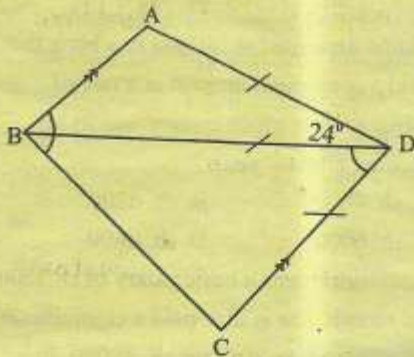


- A. 784cm^2 B. 308cm^2
C. 476cm^2 D. 196cm^2
23. One side of a right angled triangle is 16cm. Which of the following sets of measurements correctly represent the other sides of the triangle?
- A. 30cm, 36cm B. 12cm, 20cm
C. 8cm, 17cm D. 9cm, 25cm
24. In the figure below EFG is a triangle. Lines $\text{EH} = \text{HF} = \text{HG}$. Angle $\text{FEH} = 46^\circ$ and angle $\text{FGH} = 32^\circ$.



- What is the size of angle EHG?
- A. 92° B. 116°
C. 152° D. 208°

25. In the figure below line AB is parallel to CD. Line AD=BD=CD.



What is the size of angle ABC?

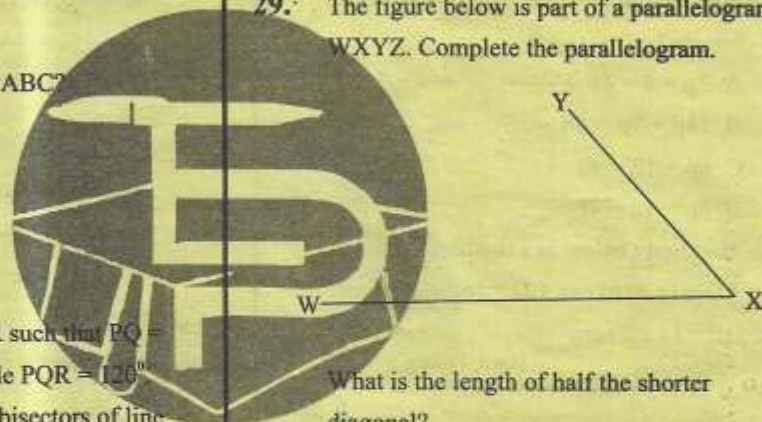
- A. 78°
 B. 156°
 C. 51°
 D. 129°
26. Construct a triangle PQR such that $PQ = 8\text{cm}$, $QR = 6\text{cm}$ and angle $PQR = 126^\circ$. Construct perpendicular bisectors of line PQ and QR. Let the two bisectors meet at X. Measure line QX.
- A. 4.1cm
 B. 7.1cm
 C. 5.6cm
 D. 7.7cm
27. A packet is in form of a pyramid with a square base. Which of the following statements is true of the number of vertices, edges and faces?
- A. Faces + vertices = edges + 2
 B. 5 faces, 8 edges and 6 vertices
 C. 4 faces, 4 vertices and 6 edges
 D. 6 faces, 12 edges and 8 vertices

28. The following are properties of a quadrilaterals

- (i) Diagonals bisect each other at 90°
 (ii) Diagonals are not equal
 (iii) All sides are equal
 (iv) Co-interior angles add up to 180° .
 (v) All angles are not equal

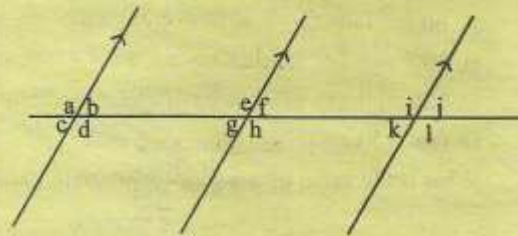
Which pairs of properties above describes both a rhombus and a parallelogram?

- A. (i), (iv) B. (iii), (iv)
 C. (ii), (v) D. (i), (v)
29. The figure below is part of a parallelogram WXYZ. Complete the parallelogram.



What is the length of half the shorter diagonal?

- A. 5.1cm
 B. 10.2cm
 C. 5.4cm
 D. 2.7cm
30. The figure below shows angles formed by three parallel lines and a transversal.



In which group below are each of the angles equal to l?

- A. d, g, h, k B. e, a, d, h
 C. i, b, f, j D. b, g, f, k

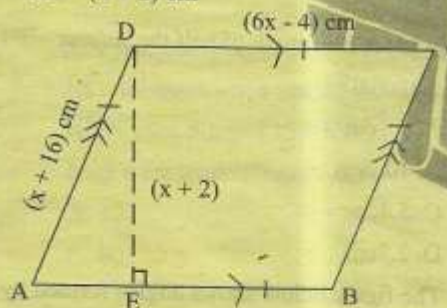
31. What is the value of x in the equation below?

$$\frac{2(x-3)}{4} - 1 = 0$$

- A. 10
B. 2
C. 1
D. 5
32. Otieno bought p oranges. Tom bought 6 oranges more than Otieno. Maria bought twice as many oranges as both Otieno and Tom. Altogether they bought 48 oranges. Which of the following equations can be used to find the total number of oranges bought?

- A. $3p + 6 = 48$
B. $14p + 7p = 48$
C. $6p + 18 = 48$
D. $4p + 12 = 48$

33. The figure below is a rhombus ABCD. AD = $(x + 16)$ cm, CD = $(6x - 4)$ cm and DE = $(x + 2)$ cm



What is the area of the rhombus in cm^2 ?

- A. 60
B. 80
C. 120
D. $(6x^2 + 8)$
34. What is the value of $k + \frac{4t - r}{x}$?

Given that $k = 4x$, $k - 4 = r$, $x = 2$ and $t = 3$

- A. 8
B. 12
C. 6
D. 4

35. What is $\frac{3}{4}(24x + 28y) - \frac{2}{3}(18x - 12y)$ expressed in its simplest form?

- A. $6x + 13y$
B. $24x + 29y$
C. $6x + 29y$
D. $24x + 13y$

36. Maina deposited sh. 40000 in a bank that paid a compound interest at a rate of 10% p.a. How much money was in his account after $1\frac{1}{2}$ years?

- A. sh. 46200
B. sh. 6200
C. sh. 6000
D. sh. 4600

37. A salesgirl earns a basic salary of sh. 32000 per month. She is also paid a commission of 7% on goods sold above sh. 80000. In a certain month she earned a total of sh. 46000. What was her total sales for that month?

- A. sh. 120000
B. sh. 200000
C. sh. 37600
D. sh. 280000

38. The marked price of a sofa set is sh. 60000. On a cash discount of 10% is allowed. The hire purchase price of the sofa set is 20% more than the marked price. Ringos and Moses bought the sofa set. Ringos bought it on cash while Moses on hire purchase term. How much more than Ringo did Moses pay?

- A. sh. 18000
B. Sh. 54000
C. sh. 12000
D. sh. 6000

39. Tenge paid sh. 16000 for a radio after he was allowed a discount of 20%. How much would he have paid if there was no discount?

- A. sh. 12800
B. sh. 13333
C. sh. 20000
D. sh. 19200

40. A fruit vendor bought 60 pineapples at sh. 15 each. She spent sh. 100 for transport. She later sold each pineapple at sh. 25. What was the percentage profit did she make?

- A. 25%
B. 50%
C. 60%
D. 30%

41. In a meeting the ratio of men to women was 3:2. The ratio of women to youths was 4:5. If there were 24 women, how many people were there altogether?

A. 36 B. 45
C. 90 D. 81

42. Eight workers can complete a piece of work in 24 days. How longer will the work take if 2 workers fail to turn up?

A. 32 B. 8
C. 40 D. 16

43. In a map drawn to a scale of 1: 300000, a road is represented by 6cm. What is the actual length in kilometres?

A. 18000000 B. 18
C. 18000 D. 1800

44. The mean of ten numbers is 5.8. Nine of the numbers are 7, 9, 5, 7, 3, 4, 6, 5 and 6. What is the sum of the mode and the median of the numbers?

A. 12 B. 6
C. $9\frac{1}{2}$ D. 13

45. The table below shows the ages of a group of pupils

Ages	10 yrs old	11 yrs old	12 yrs old	13 yrs old	14 yrs old
No. of pupils	3	8	5	12	8

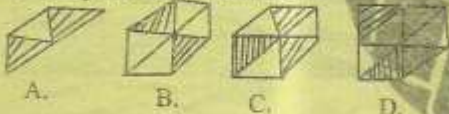
This information was represented in a pie chart. How many more degrees represented pupils of 13 years old than 10 years old.

A. 30° B. 120° C. 150° D. 90°

46. The figure below shows pattern of a shape.



Which of the following figures can be used to complete the pattern above?



47. The distance in kilometres between towns G, H, I, J and K is shown below

G				
100	H			
120	140	I		
150	160	90	J	
216	180	120	80	K

Becky travelled from town G to K via town I. If she took 3 hours, what was her average speed in m/s?

A. 90 B. $22\frac{2}{9}$
C. 72 D. 20

48. The figure below shows cubes arranged in a box



How many more cubes are needed to fill the box?

A. 88 B. 12
C. 100 D. 112

49. The table below shows the international postal charges for the surface mail.

TYPE OF ARTICLE AND MAXIMUM MASS	Countries within East Africa Zone	Countries within the rest of East Africa zone.	Countries within Europe Middle and near East Zone	Australia, America and far East zone
LETTERS				
Maximum mass 2kg	sh.	sh.	sh.	sh.
Upto 20g	45	55	60	70
over 20g upto 100g	90	105	115	150
Over 100g upto 250g	150	180	205	260
Over 250g upto 500g	270	315	360	465
Over 500g upto 1kg	450	525	600	770
Over 1kg upto 2kg	740	835	970	1450

Nina sent a 175g letter to her friend in Uganda, a 765g letter to his uncle in Botswana and 1.5kg letter to a friend in Australia. How much did she pay for the postage?

- A. sh. 675 B. sh. 2180 C. sh. 2125 D. 1852

50. A cyclist rode for two hours at an average speed of 5km/h. He rested for 30 minutes and continued for half an hour at an average speed of 20km/h. Which one of the graphs below represents the cyclist's journey?

