



503

# KCPE FIRST TRIAL STANDARD EIGHT - 2022

Time: 2hrs

## MATHEMATICS

INSTRUCTIONS TO CANDIDATES (Read these instructions carefully)

- You have been given this question booklet and a separate answer sheet. The question booklet contains 50 questions.
- When you have chosen your answer mark it on the **ANSWER SHEET**, not in the question paper.  
**HOW TO USE THE ANSWER SHEET.**
- Use an ordinary pencil only.
- Make sure that you have written on the answer sheet:-  
**YOUR INDEX NUMBER**  
**YOUR NAME**  
**NAME OF YOUR SCHOOL**
- 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.
- Do not make any marks outside the boxes.
- Keep your answer sheet as clean as possible and **DO NOT FOLD IT**.
- 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.
- 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

6. Find the value of

$$8\frac{1}{3} - 5\frac{7}{8} + 2\frac{1}{4}$$

- A.  $4\frac{17}{24}$
- B.  $5\frac{7}{12}$
- C.  $5\frac{5}{24}$
- D.  $4\frac{5}{24}$

The correct answer is A

**On the answer sheet:**

6.  [A] [B] [C] [D]    7.    [A] [B] [C] [D]    8. [A] [B] [C] [D]    9.    [A] [B] [C] [D]

In the set of boxes number 6, the box with letter A printed in it is marked.

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



5032001

This question paper consists of 8 printed pages.

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1. Which one of the following is 5500000.005 written in words?
- A. Five million five hundred thousand and five thousandths  
 B. Five million fifty thousand and five thousandths  
 C. Five million five hundred thousand and fifty thousandths  
 D. Five million five hundred thousands and five hundredths
2. What is the place value of digit 2 in the answer to  $0.0504 \div 7$ ?
- A. Ones  
 B. Tenths  
 C. Thousandths  
 D. Ten thousandths
3. What is 3.0957 rounded off correct to two decimal places?
- A. 3.09  
 B. 3.1  
 C. 3.10  
 D. 3.096
4. What is the value of  $\frac{7}{8}$  of  $\left(\frac{4}{5} + \frac{1}{2}\right) \div \frac{1}{4}$ ?
- A.  $\frac{91}{320}$   
 B.  $2\frac{7}{10}$   
 C.  $4\frac{11}{20}$   
 D.  $4\frac{4}{5}$
5. What is the volume of a cylindrical tank of diameter 4.2m and height 8m? (Take  $\pi = \frac{22}{7}$ )
- A.  $110.88\text{m}^3$   
 B.  $119.46\text{m}^3$   
 C.  $221.76\text{m}^3$   
 D.  $133.32\text{m}^3$
6. Juma and Musa shared sh 16800 in the ratio of 3:4. How much more did Musa get than Juma?
- A. Sh 2400  
 B. Sh 4200  
 C. Sh 7200  
 D. Sh 9600
7. Abit bought the following items from a shop  
*3kg of flour @ sh 107*  
*2kg packet of sugar @ sh 275*  
*2 bars of soap @ sh 90*  
*3 litres of milk @ sh 52*  
 *$1\frac{1}{2}$  litres of paraffin @ sh 84*  
 If she gave the shopkeeper sh 1500, how much balance did she receive?
- A. Sh 169  
 B. Sh 442  
 C. Sh 1058  
 D. Sh 1331
8. A map is drawn to a scale of 1:50000. What is the distance in kilometres of a road which is 18cm on the map?
- A. 0.9  
 B. 9  
 C. 90  
 D. 900
9. By how much is the LCM of 8 and 12 more than the GCD of 36 and 54?
- A. 104  
 B. 84  
 C. 14  
 D. 6
10. What is the value of  $1.26 + 90.8 - 0.14 + 0.4$ ?
- A. 92.32  
 B. 91.52  
 C. 91.06  
 D. 90.32

11. Below is a net of a solid



Which one of the following solids can be formed from the solid?

- A. Rectangular prism  
 B. Triangular prism  
 C. Triangular pyramid  
 D. Rectangular pyramid
12. Which one of the following quadrilaterals has only one pair of parallel lines?  
 A. Rhombus  
 B. Trapezium  
 C. Parallelogram  
 D. Rectangle
13. A trader had 480 litres of juice. She put all the juice in 3-decilitre bottles for sale. How many such bottles did she get?  
 A. 160  
 B. 1600  
 C. 16000  
 D. 160000
14. A window frame is made of a semi circular top of diameter 1.4m and a rectangular part 2m long by 1.4m wide. What is the area of the window frame? (Take  $\pi = \frac{22}{7}$ )  
 A.  $3.57\text{m}^2$   
 B.  $3.36\text{m}^2$   
 C.  $2.80\text{m}^2$   
 D.  $2.59\text{m}^2$

15. Alice and Martin sat for five subjects in an examination. Alice scored a total of 325 marks. The total marks for Alice were 15 more than the marks of Martin. What was the mean mark for Martin?

A. 60  
 B. 62  
 C. 65  
 D. 68

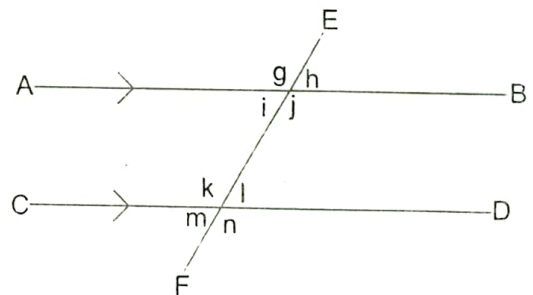
16. What is the next number in the pattern 85, 66, 49, 36, \_\_\_\_\_?

A. 11  
 B. 23  
 C. 25  
 D. 47

17. In a certain county the total number of women and children is 69206. The number of women and men is 37246. The number of men only was 11968. How many children were in the village?

A. 25278  
 B. 31960  
 C. 57238  
 D. 43928

18. In the figure below lines AB and CD are parallel. Line EF is a transversal.



Which pair of angles below are angles on a straight line?

A. i and j  
 B. h and l  
 C. j and k  
 D. i and k

19. What is the value of  $\sqrt{0.1204}$ ?
- A. 0.0032  
B. 0.32  
C. 3.02  
D. 3.2
20. In a certain school the fraction of boys in classes 5, 6, 7 and 8 are as follows:  
 $\frac{3}{8}, \frac{2}{5}, \frac{13}{20}$  and  $\frac{1}{4}$ . Which class has the highest number of girls?
- A. Class 5  
B. Class 6  
C. Class 7  
D. Class 8

21. What is half the value of n in the equation

$$\frac{2n-3}{3} + 2n = 6?$$

- A.  $1\frac{5}{8}$   
B.  $1\frac{5}{16}$   
C.  $1\frac{7}{8}$   
D.  $2\frac{5}{8}$
22. The table below shows the number of learners who enrolled in schools in a certain county in five consecutive years.

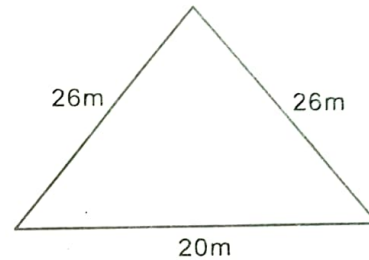
Year	2018	2019	2020	2021	2022
No. of learners	26189	28580	26110	27990	26452

In which two consecutive years was there the least increase in the enrolment?

- A. 2021 and 2022  
B. 2020 and 2021  
C. 2019 and 2020  
D. 2018 and 2019

23. A bus left Busia town on Sunday 2245hours. It arrived in Nairobi after 6 hours 55minutes. On what time and day did it reach Nairobi?
- A. Sunday, 5.00am  
B. Sunday, 5.40am  
C. Monday, 5.40am  
D. Monday, 5.00am

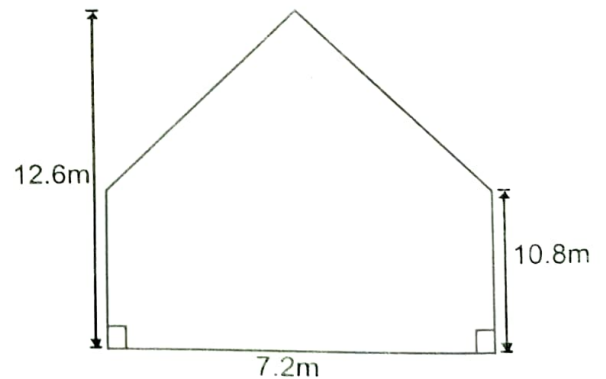
24. The diagram below shows a vegetable garden in the shape of an isosceles triangle.



What is the area of the garden in square metres?

- A. 72  
B. 120  
C. 130  
D. 240

25. The figure below represent one end face of a wall of a building. The outside surface of the wall was painted.



What was the area painted in  $m^2$ ?

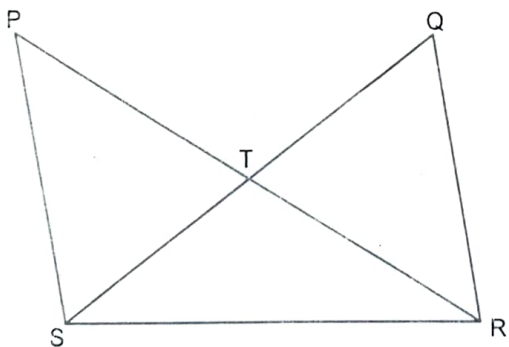
- A. 77.76  
B. 84.24  
C. 90.72  
D. 103.68

26. Which one of the following measurements can be used to draw a right angled triangle?
- A. 12cm, 16cm, 20cm
  - B. 5cm, 12cm, 15cm
  - C. 7cm, 24cm, 26cm
  - D. 9cm, 16cm, 25cm

27. A cylindrical container has an internal diameter of 14cm and a height of 20cm. What is the capacity in litres? (Take  $\pi = \frac{22}{7}$ )
- A. 3.08
  - B. 308
  - C. 3080
  - D. 3080000

28. Odero spent  $\frac{1}{4}$  of his salary on food and  $\frac{1}{2}$  of the remainder on rent. He then used the rest for paying school fees. If he spent sh 12000 on school fees, how much did he spend on food?
- A. Sh 3000
  - B. Sh 8000
  - C. Sh 12000
  - D. Sh 32000

29. The triangle below is drawn to scale. It is made up of two triangles.



Which one of the following statements is true?

- A. One side of triangle RSP is  $100^\circ$  and one side is 4cm
- B. The longest side of triangle RSQ is 6.5cm and one angle is  $100^\circ$
- C. STR is an isosceles triangle
- D. Angle PTQ is  $72^\circ$

30. Aisha had sh 12000. She gave 0.24 of the money to his son to buy books and she used 0.6 of the money to pay house rent. She then saved the rest. How much did she save?

- A. Sh 1920
- B. Sh 2880
- C. Sh 7200
- D. Sh 8400

31. The table below shows the fare table in shillings for adults. The route is from Nairobi to Nakuru.

Nairobi			
250	Naivasha		
300	150	Gilgil	
350	250	200	Nakuru

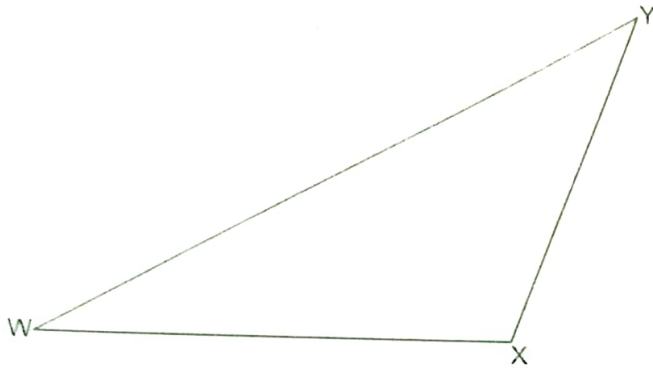
Mwebi and his wife travelled from Nairobi to Nakuru. They first stopped at Gilgil then took another vehicle to Nakuru. How much did they pay altogether?

- A. Sh 600
- B. Sh 900
- C. Sh 800
- D. Sh 1000

32. The marked price of a bed is sh 48000. The hire purchase price of the bed is 20% more than the marked price. Mutuku bought the bed on hire purchase terms. He paid a deposit and the balance in six equal monthly instalments of sh 5000 each. How much was the deposit?

- A. Sh 18000
- B. Sh 27600
- C. Sh 30000
- D. Sh 57600

33. On triangle WXY drawn below, bisect line XY to cut XY at T. Bisect angle WXY. Let the bisectors meet at point Z.

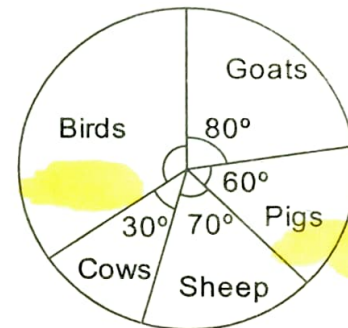


What is the size of angle XZT?

- A.  $35^\circ$   
 B.  $45^\circ$   
 C.  $145^\circ$   
 D.  $155^\circ$
34. The mass of an empty lorry is 4.5 tonnes. When loaded with 90kg bags of maize, the mass becomes 8.1 tonnes. How many bags were loaded in the lorry?
- A. 140  
 B. 90  
 C. 50  
 D. 40
35. In a farm, there are cows, goats and sheep. The number of cows is  $x$  and that of goats is three times that of cows. The number of sheep is 21 less than that of goats. The total number of the animals is 91. Which one of the following equations can be used to work out the number of cows in the farm?
- A.  $7x-21=91$   
 B.  $7x+21=91$   
 C.  $9x+21=91$   
 D.  $9x-21=91$

36. Four people working at the same rate can do a job in 10 days. How many more people should be hired to complete the same job in 2 days?
- A. 24  
 B. 20  
 C. 16  
 D. 1

37. The pie-chart below shows the type of animals in Kanairo's farm in a certain year.

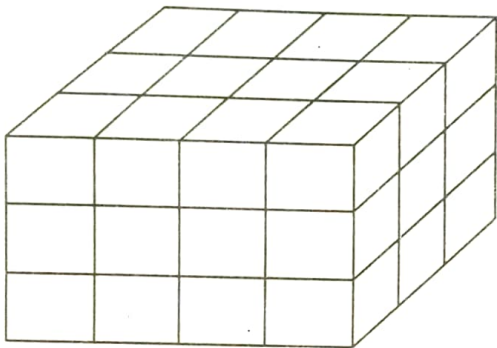


There were a total of 240 animals in the farm. How many more birds than cows were in the farm?

- A. 140  
 B. 80  
 C. 60  
 D. 20
38. Which one of the following statements is true about all the triangles?
- A. Sum of interior angles is  $360^\circ$   
 B. One angle is  $60^\circ$   
 C. Two sides are equal  
 D. Sum of interior angles is  $180^\circ$
39. Aguerro sold an item for sh 720 and made a loss of 20%. How much had he paid for the item?
- A. Sh 144  
 B. Sh 576  
 C. Sh 864  
 D. Sh 900

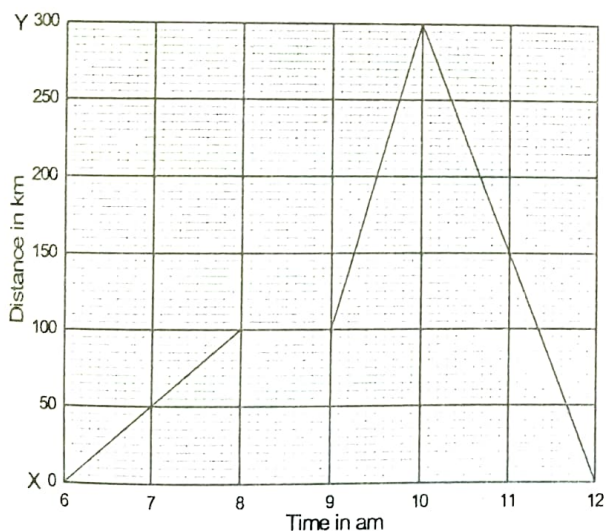
40. The fare from town P to town Q was sh 1200. During peak hours, the fare was increased by sh 400. What was the percentage increase in fare?
- A.  $33\frac{1}{3}\%$   
 B. 50%  
 C. 25%  
 D. 20%

41. The diagram below shows a stack of cubes. The stack was painted all over.



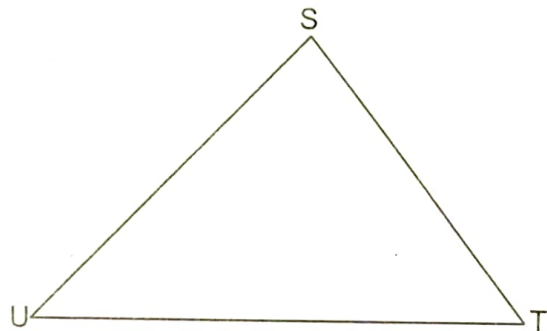
How many cubes were painted on three sides only?

- A. 8  
 B. 12  
 C. 24  
 D. 36
42. The graph below represents Murages journey from town X to town Y.



What is the average speed for the whole journey?

- A. 50km/h  
 B. 60km/h  
 C. 75km/h  
 D. 100km/h
43. In the triangle drawn below, draw a circle that touches all the vertices.



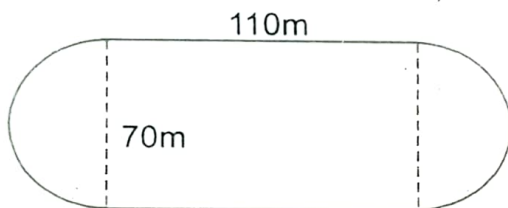
What is the diameter of the circle?

- A. 3.5cm  
 B. 4.6cm  
 C. 7.0cm  
 D. 9.2cm
44. Njambi paid sh 750 for a book after a discount of 25%. What was the marked price of the book?
- A. Sh 562.50  
 B. Sh 600.00  
 C. Sh 937.50  
 D. Sh 1000

45. A motorist covered a 270km journey from 9.00am to 12.00 noon. What was the speed in metres per second?

A. 810  
B. 90  
C. 30  
D. 25

46. The diagram below represents a running track. Both sides are semi-circular.



Korir ran round the field five and half times.

How many kilometres did he cover?

(Take  $\pi = \frac{22}{7}$ )

- A. 0.44  
B. 2.42  
C. 440  
D. 2200
47. What is the simplest form of the expression  $5x + \frac{1}{4}(12x - 8y)$ ?
- A.  $8x - 2y$   
B.  $8x + 2y$   
C.  $8x - 8y$   
D.  $17x - 8y$

48. Tap A can fill a tank in 6 minutes. Tap B can fill the same tank with water in 3 minutes. If both taps are opened at the same time, what fraction of the tank will have water after one minute?

A.  $\frac{1}{2}$   
B.  $\frac{1}{6}$   
C.  $\frac{1}{3}$   
D.  $\frac{1}{18}$

49. A cylindrical tank of radius 1.4m and height 3m was painted all over on the external surfaces. What was the total area painted?

(Take  $\pi = \frac{22}{7}$ )

A.  $38.72\text{m}^2$   
B.  $32.56\text{m}^2$   
C.  $26.4\text{m}^2$   
D.  $12.32\text{m}^2$

50. John borrowed sh 300000 from a bank which charged a simple interest at the rate of 15% per annum. How much did he pay back after 3 years?

A. Sh 135000  
B. Sh 435000  
C. Sh 396750  
D. Sh 690000