K.C.P.E EIGHTH TRIAL
STANDARD EIGHT 2022

MATHEMATICS

Time: 2 hours

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 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 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 and D. In each case only **ONE** of the four answers is correct. Choose the correct answer.

10. On the answer sheet the correct answer is to be shown by drawing a **dark line** inside the box in which the letter you have chosen is written.

Example

In the Question Booklet:

1. What is $ 898.997 rounded off to nearest hundredth?

A. $ 898.99
B. $ 899.00
C. $ 898.90
D. $ 899.91

The correct answer is (B)

On the answer sheet:

[A B C D]   14 [A ⬛ C D]   24 [A B C D]   34 [A B C D]   44 [A B C D]

In the set of boxes numbered 14, the box with the letter B 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.

Candidates should check the question paper to ensure that all the pages are printed as indicated and no questions are missing.

1. Which of the following number is twenty one million twenty one thousand two hundred and one?
   A. 21 021 201
   B. 21 201 021
   C. 21 201 201
   D. 21 021 021

2. What is 89,8996 rounded off to the nearest thousandth?
   A. 89,899
   B. 89,990
   C. 89,900
   D. 90,000

3. What is the difference in the total value of digit 8 and digit 2 in the product of 285 and 345?
   A. 8 020
   B. 7 980
   C. 98 325
   D. 98 020

4. Hassan for a holiday from 27th December 2021 to 6th March 2022. For how many days was he on holiday?
   A. 68
   B. 69
   C. 70
   D. 71

5. The diagram below shows the net of a solid.
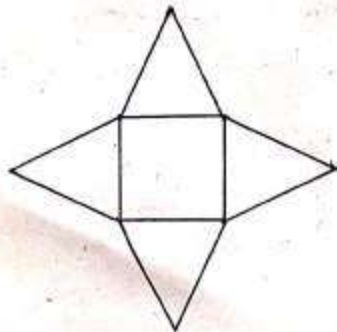
   What is the product of the edges and vertices?
   A. 40
   B. 18
   C. 25
   D. 36

6. Osman deposited Sh. 240 000 in a commercial bank that paid simple interest at the rate of 2% per month. How much money was in his account after one year?
   A. Sh. 57 600
   B. Sh. 4 800
   C. Sh. 297 600
   D. Sh. 244 800

7. Eleven pupils scored the following marks in an English exam. 58, 64, 38, 78, 54, 66, 86, 68, 74, 48 and 54. What was their mean marks?
   A. $62\frac{6}{11}$
   B. 54
   C. 64
   D. 63

8. The triangle ABC below is drawn to scale.
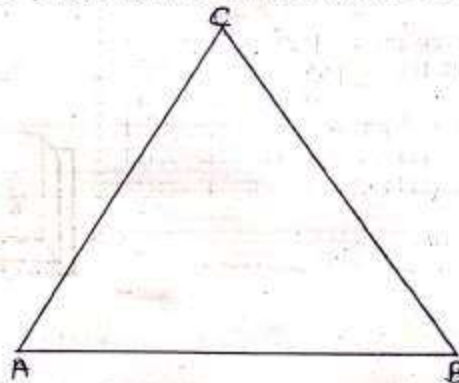
   What is the size of the reflex angle ACB?
   A. 68"
   B. 112"
   C. 144"
   D. 292"

9. Which of the following is the next number in the sequence 0.3, 0.9, 1.8, 3.0, ____?
   A. 4.2
   B. 4.5
   C. 4.8
   D. 3.6

10. At Ndaragwa primary school the number of pupils in the year **2021** increased by **72** pupils. If this was **12%** increase from the year **2020**. How many pupils were there in the year **2021**?

A. 600
B. 720
C. 636
D. 672

11. A rectangular plot of land measures ↑**60** metres long by 100 metres wide. It was to be fenced using posts each placed **4m** apart. A gate of 8m is to be left. How much money was used to buy the post if each post was costing Sh **150**?

A. Sh.19 500
B. Sh.19 350
C. Sh.19 200
D. Sh.9 750

12. Which of the following decimals increases by a hundredth?

A. 0.7025, 0.8025, 0.9025
B. 0.5232, 0.5332, 0.5432
C. 0.2136, 0.2146, 0.2156
D. 0.6666, 0.6766, 0.7666

13. The fractions $\frac{3}{5}, \frac{4}{9}, \frac{2}{3}$ and $\frac{3}{7}$ are to be arranged from the largest to the smallest. Which is the correct order?

A. $\frac{3}{5}, \frac{2}{3}, \frac{4}{9}, \frac{3}{7}$

B. $\frac{3}{7}, \frac{4}{9}, \frac{3}{5}, \frac{2}{3}$

C. $\frac{2}{3}, \frac{3}{5}, \frac{4}{9}, \frac{3}{7}$

D. $\frac{2}{3}, \frac{4}{9}, \frac{3}{7}, \frac{3}{5}$

14. What is the value of
$$24 + 2(6^2 - 4^2) - 108 \div 9 + 8?$$

A. 120
B. 60
C. 90
D. 72

15. On a map of scale of **1:30 000** a rectangular plot measures **5cm** by **3cm**. What is the actual area of the plot in hectares?

A. **1:3500 00** Hactares
B. **135000** Hactares
C. **13500** Hactares
D. **135** Hactares

16. Washiali had **33** five hundred shilling notes. Which he changed as follows;
Shs **5000** *into* **one** *thousand shilling notes*
Shs **5800** *into* **two** *hundred shilling notes*
Shs **4200** *into* **one** *hundred shilling notes*
The remaining amount was changed into fifty shilling notes.
How many notes did he get altogether?

A. 106
B. 101
C. 64
D. 76

17. What is the value of
$$0.04 + 0.6 \times 0.24 \div 0.4 - 0.08?$$

A. 0.32
B. 0.48
C. 0.032
D. 0.048

18. What is the value of x in the equation?
$$\frac{x+3}{4} + \frac{2(x-3)}{2} = 6$$

A. 3
B. $5\frac{3}{5}$
C. $6\frac{3}{5}$
D. 6

19. After selling a generator for Sh.27000 Hassan made of 10% loss. At what price should he have sold the generator to make a 12% profit?
   A. Sh.3 600
   B. Sh.33 600
   C. Sh.30 240
   D. Sh.24 300

20. A Moyale bound bus arrived at Moyale on Tuesday 0825hrs after travelling for $9\frac{3}{4}$ hours. At what day and time in 12 hours system had the bus left Nairobi?
   A. Monday 10:45 pm
   B. Wednesday 10:45 pm
   C. Monday 10:40 pm
   D. Wednesday 6:10 pm

21. What is the sum of the square root of 0.0196 and the square of 0.04?
   A. 0.1416
   B. 0.08
   C. 0.18
   D. 0.4126

22. A school has a population of 240 pupils. The pupils are offered three packets of milk per week. How many litres of milk do they consume in two weeks if a packet of milk hold 2 decilitre of milk?
   A. 144
   B. 1440
   C. 288
   D. 2880

23. A cylinder has a volume of 24640 cm³. If it has a height of 40cm. What is the length of the diameter?
   A. 14cm
   B. 28 cm
   C. 7cm
   D. 56 cm

24. Work out the inequality below

$$\frac{8x-12}{6}+2x < 6$$

   A. $x > 2\frac{2}{5}$ B. $x < 2\frac{2}{5}$

   C. $x < 1\frac{4}{5}$ D. $x > 1\frac{4}{5}$

25. Karanja and Ochieng shared some money in the ratio 4:3. If the total amount being shared was Sh.28 000. How much less than Karanja did Ochieng get?
   A. Sh.16 000
   B. Sh.12 000
   C. Sh.7 000
   D. Sh.4 000

26. Line AB below is a part of a parallelogram ABCD. Line BC 6.2 cm and angle BAC 57⁰. Complete the parallelogram and drop a perpendicular from point D to meet line AB at X. Join line CX.

   What is the measure of the angle CXD?
   A. 35°
   B. 113°
   C. 33°
   D. 55°

27. Hassan bought the following items from a shop.
   2½ kg sugar @ sh 130
   1½ litre cooking oil @ sh 220
   2kg salt for sh 75
   5 loaves of bread @ sh 60
   4-2 kg packets of wheat flour @ 110 per kg.
   If he paid using 2-1000 shilling notes. How much balance did he get?
   A. Sh 1910
   B. Sh 90
   C. Sh 15
   D. Sh 190

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28. Nancy paid Sh.7600 for an item after getting 5% discount. How much less would he have paid if he was given 7½ discount?
   A. Sh.200
   B. Sh.8 000
   C. Sh.7400
   D. Sh.7030

29. In the figure below line AB, CD and EF are parallel lines. Line EDB is a transversal cutting across the three parallel lines. Line ECA is parallel to line FD. Angle EDF 36°. Angle DEF 42°.
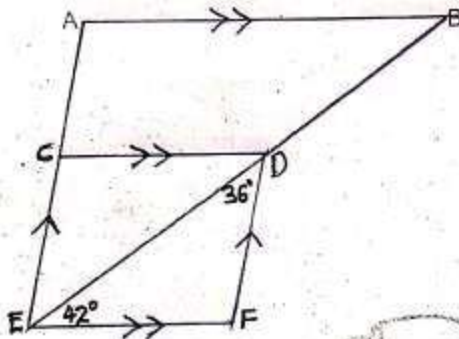
   What is the size of angle CAB?
   A. 138°
   B. 102°
   C. 78°
   D, 42°

30. During a walk to raise the school fee of a certain childrens home a total of 650 girls took part. The number of boys was $\frac{4}{5}$ that of girls. The number of adults was half the number of children. Each child registered with Sh.1500 and each adult Sh.2000. How much money was raised from the week?
   A. Shs.1 755 000
   B. Shs.1 170 000
   C. Shs.2 925 000
   D. Shs.2 632 500

31. The figure below shows four quarter circles cut out from a sqaure.

14cm
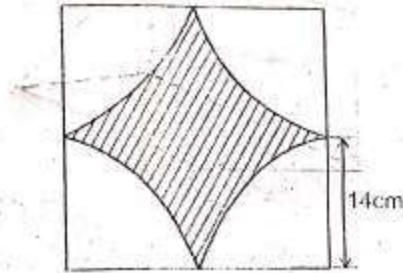
   What is the area of the shaded?
   A. 616 cm²
   B. 784 cm²
   C. 308 cm²
   D. 168 cm²

32. Which of the following is the simplest form of $\dfrac{6(3a+2b)+3(4a-3b)}{2(2a+3b)+5a}$

   A. $\dfrac{30a+3b}{9a+6b}$

   B. $\dfrac{10a+b}{3a+2b}$

   C. $\dfrac{6a+3b}{9a+6b}$

   D. $\dfrac{2a+b}{3a+2b}$

33. The table below show the rates of buying postal orders.

Value of the order(Shs)	Commission (Shs)
10.00	30.00
200.00	37.00
400.00	43.00
500.00	52.00
1000.00	68.00

Jackline wanted to send Sh 2300 by postal orders. Which of the following combination of the postal order given below will she pay the least amount of money?
   A. Shs.1000, Shs.1000, Shs.200, Shs.100
   B. Shs.1000, Shs.500, Shs.500, Shs.100
   C. Shs.500, Shs.500, Shs.500, Shs.500, Shs.200, Shs.100
   D. Shs.1000, Shs.1000, Shs.100, Shs.100, Shs.100

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34. The figure below shows a triangular prism.
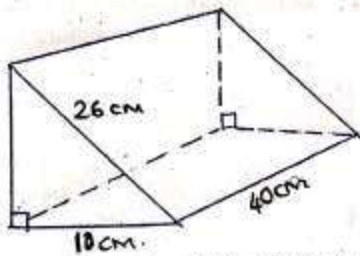
What is the volume of the triangular prism?
A. 9 600 cm³
B. 4 800 cm³
C. 5 200 cm³
D. 10 400 cm³

35. What is the volume of

$$\frac{a(b^2 + cb)}{2ab},$$

If $a=3, b=a-1$ and $c=a+b$.

A. $4\frac{1}{5}$

B. $3\frac{1}{2}$

C. $2\frac{3}{4}$

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

36. A salesman earns a basic salary of Shs.39000 per month. He is also paid 2.5% commission on all the sales above Shs.100 000. If she earned a total of Shs.5200, what was the value the sales?
A. Shs.520 000
B. Shs.650 000
C. Shs.620 000
D. Shs.780 000

37. What is the value of

$$\frac{5}{6} \text{ of } \left(8\frac{1}{2} - 5\frac{1}{4}\right) \times \frac{2}{3}?$$

A. $2\frac{29}{36}$ B. $1\frac{19}{36}$

C. $3\frac{19}{36}$ D. $1\frac{29}{36}$

38. A pick up has a mass is one and a half tonnes while empty. It was loaded with 65 bags of sugar each 50 kg and 35 bags of rice each 75kg. What is the total mass of the loaded pick up in tonnes?
A. 7 375 tonnes
B. 4 875 tonnes
C. 4.875 tonnes
D. 7.375 tonnes

39. Karani travelled from Meru to Isiolo at an average speed of 25m/s for 2½ hours. He rested at Isiolo for half an hour and then travelled back at a speed of 112½ km/h. What is the average speed for the whole journey?
A. 90 km/h
B. 96 km/h
C. 100 km/h
D. 108 km/h

40. The company hired 48 men to do a job in 108 days. How many more men should be added to have the job done in 72 days?
A. 72
B. 60
C. 36
D. 24

41. At a health camp the number of children was there times the number of men. The number of men was 240 less than the number of women. If the number of children x which of the following equation can be used to get the number of men if the total number of people who attended was 2400.
A. 7x + 240 = 2400
B. 4x + 240 = 7200
C. 5x + 720 = 7200
D. 5x + 720 = 2400

42. Kamano earns a total of Sh 13 650 after working for 21 days. How much more would he earn after working for 28 days?
A. Sh.18 200
B. Sh.4 550
C. Sh.650
D. Sh.13 000

43. The following are characteristics of quadrilateral.

   (i) Two pairs of parallel lines.
   (ii) Diagonals bisect at right angle.
   (iii) All interior angles are right angles.
   (iv) Diagonals are equal.

The quadrilateral described above is

A. Square
B. Parallelogram
C. Rhombus
D. Trapezium

44. A clock gains ten seconds every two hours. The clock was set right on Monday 8:30 am. What time did it show on Friday the same week 8:30 am.

A. 8:22 am
B. 8:14 am
C. 8:46 am
D. 8:38 am

45. The marked price of a gas cooker is Shs.50000. The hire purchase price is 30% more than the marked price. The hirepurchase terms requires a deposit of 40% of the marked price and fifteen equal monthly instalment. How much is each instalment?

A. Shs. 2000
B. Shs. 2600
C. Shs. 3000
D. Shs. 2400

46. Construct a triangle XYZ such that XY 5A cm. Line YZ=XZ 7cm. Draw a circle touching points XYZ What is the length of the diameter.
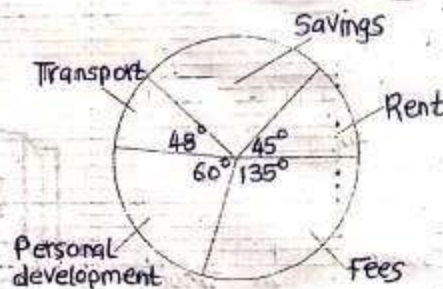
A. 3,9 cm
B. 1,9 cm
C. 7,8 cm
D. 3,8 cm

47. The figure below shows a right angled triangle joined to a rectangle and then rectangle joined to a quarter a circle.
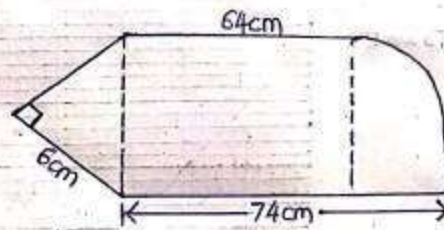
What is the area of the figure? (π 3.14)

A. 821
B. 942.5
C. 742.5
D. 842.5

48. The pie chart below how Kawira spent her salary.

If he spent shilling 34 800 more on school fees than transport. How much did he spend on saving?

A. Shs.54 000
B. Shs.19 200
C. Shs.28 800
D. Shs.144 000

49. The piece of an item was increased from Sh5000 to Sh 6 500. What was the ratio increase?

A. 10:30
B. 50:65
C. 13:10
D. 65:50

50. The graph below shows the journey by two motorists Ole Nkuraiya and Kanchori. Ole Nkuraiya left town **A** for town **B** while Kanchori left town **B** for town.
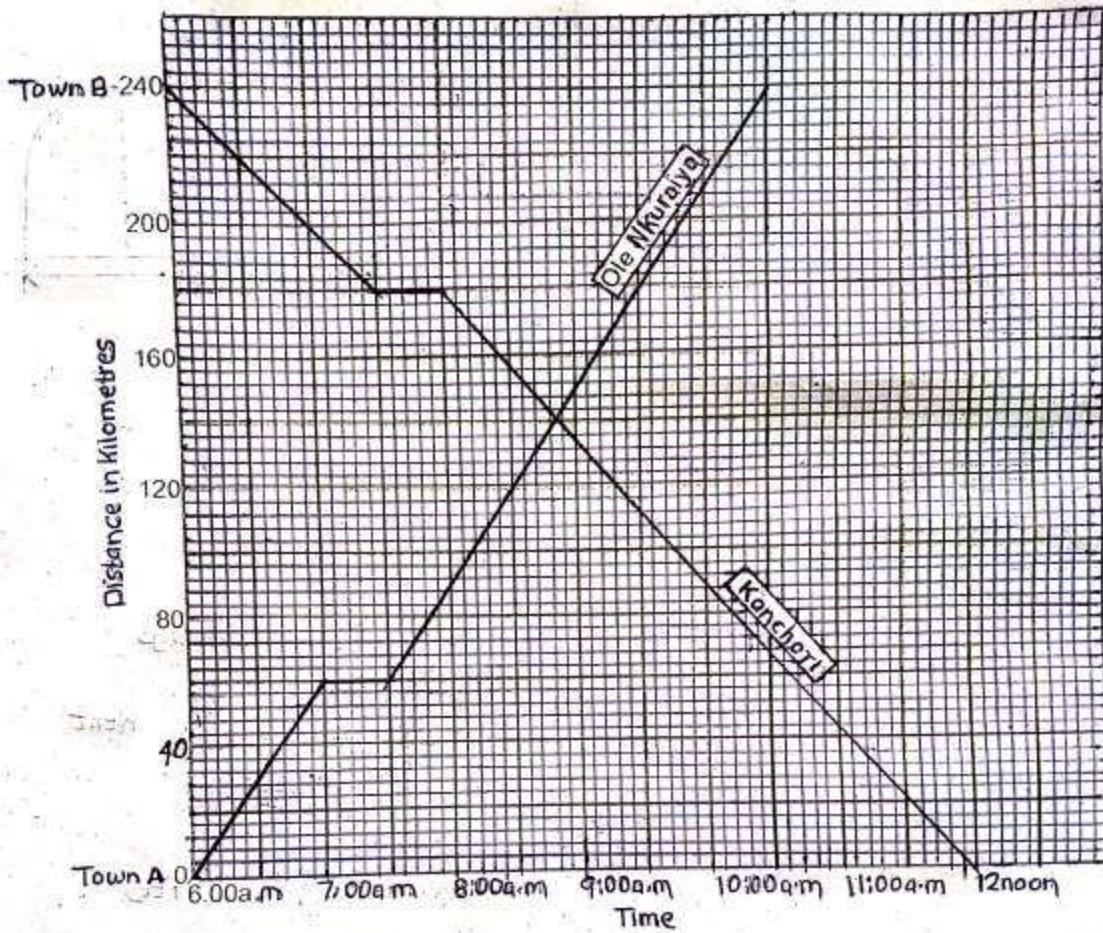
How far from town **A** was Kanchori at 10:00 am?

A 90 Km   B. 85 Km   C. 110 km   D. 95 Km