

K.C.P.E EIGHTH TRIAL STANDARD EIGHT 2021

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:

14. What is the area of a circle whose radius is 28cm?

- A. 308cm^2
- B. 2464cm^2
- C. 616cm^2
- D. 1232m^2

The correct answer is B (2464cm^2)

On the answer sheet:

A B C D A B 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 fifteen million, fifteen thousand and fifteen?

- A. 15 150 015
- B. 15 015 510
- C. 15 015 150
- D. 15 015 015

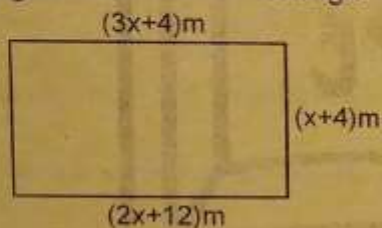
2. How many groups of two hundreds are there in the total value of digit 5 in the number 256 324.7

- A. 50 000
- B. 250
- C. 500
- D. 2 500

3. What is the value of $\frac{0.81 \times 0.72 \times 0.63}{0.7 \times 0.12 \times 0.09}$?

- A. 4 860
- B. 486
- C. 48.6
- D. 4.86

4. The figure below shows a rectangle



What is its area?

- A. $336m^2$
- B. $96m^2$
- C. $784m^2$
- D. $968m^2$

5. What is 34 051 divide by 17?

- A. 20 003
- B. 2003
- C. 203
- D. 23

6. What is the difference between the LCM of 18 and 24 and the GCD of 54 and 72?

- A. 72
- B. 18
- C. 54
- D. 36

7. What is the value of

$$\frac{1}{4} \div \frac{1}{2} \text{ of } \frac{1}{2} + \left(\frac{2}{3} - \frac{1}{6} \right)$$

- A. $\frac{9}{6}$
- B. $1\frac{1}{2}$
- C. $1\frac{1}{6}$
- D. $\frac{3}{4}$

8. What is the sum of the next two numbers in the sequence?

2, 3, 5, 7, _____, _____

- A. 20
- B. 24
- C. 11
- D. 13

9. A rectangular plot has a perimeter of 124cm. The width is 2cm shorter than the length. What is the area of the rectangle?

- A. $960cm^2$
- B. $1920cm^2$
- C. $660cm^2$
- D. $3843cm^2$

10. Twelve men can complete a job in 20 days. If the men work at the same rate, how many more men are needed to complete the job in 12 days?

- A. 8
- B. 12
- C. 20
- D. 9

11. The numbers below are the marks obtained by Charles in a test out of 15.

11, 13, 9, 8, 9

What is the sum of mode and mean?

- A. 9
- B. 19
- C. 10
- D. 50

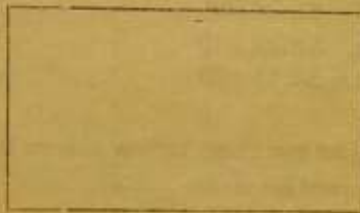
12. Hassan borrowed sh.80 000 from a lending institution at a simple interest rate of 4% per annum. How much did he pay back at the end of two years?

- A. Sh.6 400
- B. Sh.83 200
- C. Sh.86 400
- D. Sh.3 200

13. What is the value of $\frac{2x^2 - y + z}{z - y}$ if $x = 4$, $y = x - 1$ and $z = y + 2$?
- A. 37
B. 17
C. 12
D. 9

14. In a meeting $\frac{2}{5}$ of the attendants were men and $\frac{1}{5}$ were women. $\frac{3}{7}$ of the remainder were boys and the rest 168 were girls. How many women were there?
- A. 126
B. 210
C. 336
D. 840

15. The diagram below is drawn to scale 1:10000.

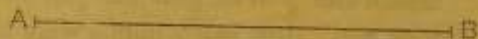


What is the area of the land in hectares?

- A. 15 000 h
B. 1 500 h
C. 15 h
D. 0.15 h
16. Wangila paid sh.5950 for an item after getting a discount of 15%. How much more would he have paid if he had been given a 10% discount?
- A. Sh.630
B. Sh.700
C. Sh.1 050
D. Sh.350

17. A school wanted to transport a group of 320 student to a sporting activity using a minibus of capacity 33 passengers and a Nissan with a capacity of 14 passengers. If both vehicles made equal trips and in all the trips the minibus was full, how many students were carried by the Nissan in the seventh trip?
- A. 5
B. 14
C. 33
D. 28

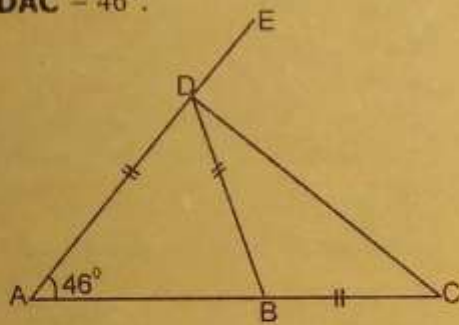
18. On the line **AB** below, complete the construction of the isosceles triangle **ABC** where line **BC = AC = 8cm**. Construct a circle with centre **O** which touches the sides of a triangle.



What is the radius of the circle?

- A. 2cm
B. 3.6cm
C. 4.3cm
D. 5.4cm
19. A school has a total of 180 pupils. Each pupil is given 2-2 $\frac{1}{2}$ packets of milk per week. How many litres of milk did they consume in three weeks?
- A. 2160 l
B. 216 l
C. 21.6 l
D. 2.16 l

20. In the figure below line **ABC** is a straight line. Line **AD=BD=BC** and angle **DAC** = 46° .



What is the measure of the angle **EDC**?

- A. 46° B. 88°
C. 69° D. 23°

21. What is the value x in $3(2x + 6) - 20 = 64$

- A. 2
B. 16
C. 12
D. 11

22. How many days were there between 5th January to 2nd May year 2020?

- A. 115
B. 116
C. 117
D. 118

23. In a school the ratio of boys to girls, 3:2 there are 900 pupils in a school. During school tour $\frac{1}{6}$ of the girls and $\frac{1}{5}$ of the boys took part. How many pupils were left at school?

- A. 732
B. 168
C. 540
D. 360

24. The table below shows the class absentee number in one week in a class of 35 pupils.

Boys	2	3	1	0	6
Girls	3	2	0	5	1

What was the total absentees?

- A. 23
B. 162
C. 175
D. 152

25. What is $\frac{3}{8}(24m + 48n) + \frac{5}{6}(30m - 24n)$?

- A. $34m + 2n$
B. $14m + 2n$
C. $34m - 38n$
D. $34m - 2n$

26. The number of registered voters in a certain constituency increased by 20%. If there are 24 000 voters after the increase, how many voters were registered before increase?

- A. 19 200
B. 20 000
C. 28 800
D. 30 000

27. A sales agent earns a basic salary of sh.18 000 and a commission of 4% on all the sales he makes. In one month he sold goods worth 280 000 how much money did he earn that month?

- A. Sh.11 200
B. Sh.28 000
C. Sh.29 200
D. Sh.11 400

28. The pie chart below shows how Omondi spent his salary.



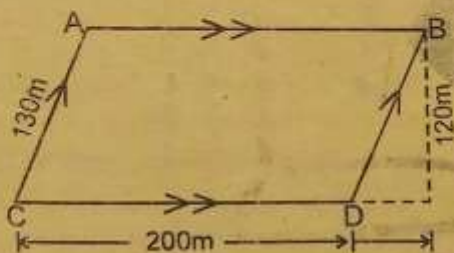
If he spent sh.17400 on transport, how much more did he spend on fees than on food?

- A. Sh.28 800
B. Sh.7 200
C. Sh.21 600
D. Sh.50 400

29. A bus left town A on Thursday at 5.45pm and took 9hrs 30 minutes to reach town B. At what time and day would it reach town B in 24hrs system?
- A. 0215hrs Friday
 B. 0315hrs Friday
 C. 0315hrs Thursday
 D. 1515hrs Thursday

30. A cylindrical tank whose height is 2.8m has a diameter of 3.5m. If it is full of water, how many more litres are needed to fill the tank?
- A. 26 950l
 B. 16 170l
 C. 10 780l
 D. 2 695l

31. In the quadrilateral ABCD below line AB is parallel to line CD and line AC is parallel to line BD.



What is the area of the quadrilateral

- A. 18 000m²
 B. 24 000m²
 C. 26 060m²
 D. 19 500m²

32. Kanini bought the following items from a shop.

2kg sugar @ 110

4 packets of 500ml at sh. 55

1½kg cooking fat @ sh.160

2kg of wheat flour for sh.240

3kg salt at sh. 25

If he paid using 2-500 shilling notes, how much balance did he get?

- A. Sh.955
 B. Sh.150
 C. Sh.95
 D. Sh.45

33. A watch loses 5 seconds every hour. It was set correct on Thursday at 6.30am. What time did it show at 6.30pm the next Thursday?

- A. 6.15pm
 B. 6.16pm
 C. 6.29pm
 D. 6.45pm

34. Tom bought x mangoes while Titus bought 12 more mangoes than Tom. Tony bought 6 mangoes more than the sum of Tom and Titus. If in total they bought 96 mangoes, which of the following equation can be used to get the number of mangoes bought by Tony?

- A. $4x + 36 = 96$
 B. $4x + 30 = 96$
 C. $3x + 30 = 96$
 D. $2x + 12 = 96$

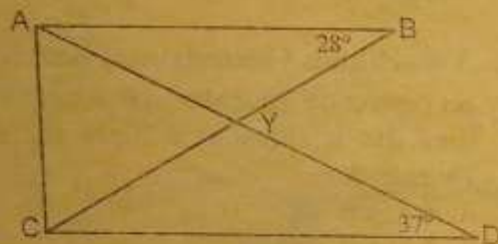
35. Kanana drove from Meru to Ishiara a distance of 120km in $\frac{3}{4}$ hours. He stayed at Ishiara for two hours and drove back taking half an hour more than he took to drive from Meru to Ishiara. What was his average speed for the whole journey.

- A. 120km/h
 B. 96km/h
 C. 90km/h
 D. 108km/h

36. An isosceles triangle has a perimeter of 64cm and the base of 14cm. The other two sides are equal. What is the area of the triangle?

- A. 336cm²
- B. 168cm²
- C. 175cm²
- D. 350cm²

37. In the figure below line **AB** is parallel to line **CD** Angle **ABY** = 28° while angle **CDY** = 37°.



What is the size of angle **BYA**?

- A. 115°
- B. 28°
- C. 65°
- D. 125°

38. The table below shows the fare charges in a certain route.

A					
60	B				
130	70	C			
180	110	65	D		
230	170	130	50	E	
290	210	180	110	70	F

Kimani his wife and three children travelled from town **A** to town **F**. They made a stopover at town **C** to pick his sister and her two sons. They all proceeded to town **F**. How much fare did they pay in total if the children paid half the fare?

- A. Sh.1 350
- B. Sh.1 235
- C. Sh.1 445
- D. Sh.1 550

39. The table below show the charges on buying a postal order.

Value of the order	Commission
1000	41
2000	53
3000	78
4000	89
5000	110

Jane wanted to send sh.12 000 using postal order. Which of the following combination would she pay the least commission?

- A. Sh.5000, Sh.4000, Sh.2000, Sh.1000
- B. Sh.5000, Sh.3000, Sh.3000, Sh.1000
- C. Sh.4000, Sh.4000, Sh.4000
- D. Sh.5000, Sh.4000, Sh.3000

40. What is the value of $\frac{x}{2} + \frac{x-3}{4} = 3$

- A. 2
- B. 3
- C. 5
- D. 6

41. The area of a square plot of land is 0.81 hectares. The owner of the plot decided to fence the plot using five strands of wire. What was the length of the wire needed?

- A. 90m
- B. 360m
- C. 1800m
- D. 900m

42. The figure drawn below is right-angled triangular prism.

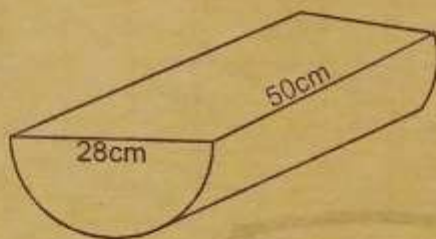


What is its volume?

- A. 900cm³
- B. 3600cm³
- C. 2400cm³
- D. 1800cm³

43. A soda dealer sold 1200 crates of soda in the month of January. If this was 20% decreased from what he sold in December, how many crates did he sell in the month of December?
- A. 1500
B. 1440
C. 960
D. 240

44. The figure below shows a water trough



What was the capacity of the trough in litres?

- A. 30 800/
B. 30.8/
C. 15400/
D. 15.4/
45. Jared had k shillings. Jackline had two shillings more than Jared. Jasmin had three shilling less than both Jared and Jackline had. How much money in total did they have in total?
- A. $4k - 1$
B. $4k + 3$
C. $4k + 5$
D. $4k + 7$

The table below shows the bus timetable from town A to F. Use it to answer question 46.

Town	Arrival Time	Departure time
A		5.25am
B	7.05am	7.30am
C	8.50am	9.10am
D	10.20am	10.40am
E	12.10pm	12.40pm
F	1.20pm	2.00pm

46. What is the distance from town C to town D if the bus travelled at a speed of 60km/h?
- A. 60km
B. 90km
C. 70km
D. 80km
47. What is the number of edges, faces and vertices of a square based pyramid.

	Edges	Faces	Vertices
A.	9	5	6
B.	8	5	5
C.	12	6	8
D.	12	5	8

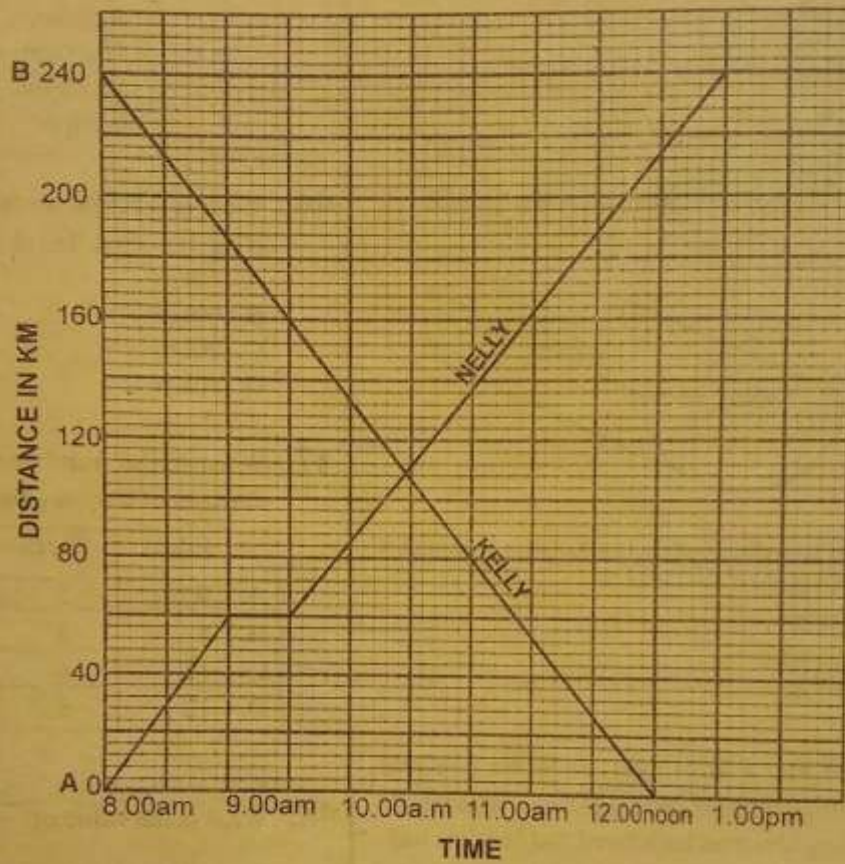
48. What is the value of $\frac{2x(xyz - yz)}{2x + 2}$ if $x = 5$, $y = x + 1$ and $z = 2$
- A. 480
B. 36
C. 40
D. 120

49. The following are characteristics of triangle.
- Interior angles adds up to 180° .
 - None of the angles is equal to another.
 - None of the sides are equal.

The triangle described above is

- A. right angled triangle
B. isosceles triangle
C. scalene triangle
D. equilateral triangle

50. The graph below shows the journey by two motorists. Nelly and Kelly. Nelly left town **A** for town **B** while Kelly left town **B** for town **A** a distance of 240km. After travelling for 60km Nelly stopped for half an hour and then continued with the journey while Kelly travelled without stopping to town **A**.



- How far apart were the two motorist when Nelly started the second part of the journey?
- A. 100km
 - B. 80km
 - C. 60km
 - D. 1605km