503007

KENYA NATIONAL ASSESSMENT SERIES
KCPE SECOND PREDICTION 20/21
503

- MATHEMATICS -
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 paper.

HOW TO USE THE ANSWER SHEET.

4. Use an ordinary pencil only.
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

35. An athelete covered 100 metres in 10 seconds. What was her speed in km/hr?

A. 72
B. 36
C. 18
D. 10

The correct answer is **B**

On the answer sheet:

35. [A] ~~[B]~~ [C] [D] **36.** [A] [B] [C] [D] **37.** [A] [B] [C] [D] **38.** [A] [B] [C] [D]

In the set of boxes number **35**, the box with 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.

For enquiries call, 0722 424273 / 0111 363432

1. Which one of the following is three million four hundred and six thousand less six hundred and eighty and thirty-eight hundredths?
A. 3406680.38
B. 3406000.38
C. 3405319.62
D. 3405319.72

2. How many groups of hundreds are there in the value of digit 9 in the number 7296341?
A. 90000
B. 900
C. 9000
D. 9

3. What is the smallest number that multiplies 242 to make it a perfect square?
A. 11
B. 4
C. 3
D. 2

4. What is a third of the next number in the sequence 2, 3, 5, 8, 13, _____
A. 7
B. 21
C. 5
D. 20

5. A shopkeeper opened his shop from 18th January to 23rd May 2012. For how many days did he open his shop?
A. 126
B. 127
C. 125
D. 124

6. What is the place value of digit 9 in the product of 2.86 and 327?
A. Ten thousand
B. Hundredths
C. Thousandths
D. Hundreds

7. Atieno bought the following items:
3-2kg packets of maize flour at sh 120
2kg meat at sh 400
4-500g sachets of tea leaves for sh 200
½kg salt at sh 24

Calculate the total bill.
A. sh 1372
B. sh 1732
C. sh 1252
D. sh 1384

8. What is the value of:
$24 \div 3 + 4 \times 5 - 4 \div 8 \times 10 - 1 \times 2$?
A. 28
B. 6
C. 34
D. 21

9. Which one of the following measurements can be used to draw a right-angled triangle?
A. 9cm, 16cm, 25cm
B. 2.5cm, 6cm, 6.5cm
C. 0.3cm, 0.4cm, 0.05cm
D. 7cm, 24cm, 2.5cm

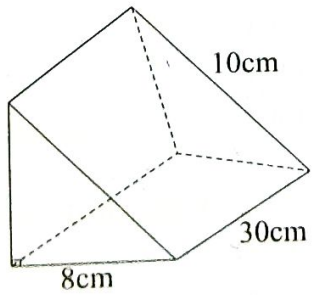
10. What is the value of **m** in the equation?
$$\frac{2m - 1}{3} = \frac{m + 8}{2}$$
A. 26
B. 22
C. 2
D. 24

11. A trader bought 672 bottles of soda. If 27 bottles broke during transportation, how many crates did he use in packing the remaining bottles?
A. 645
B. 26
C. 27
D. 28

12. In a church congregation there were 200 men present. There were 70 more women than men and children were half of the adults. Find the total attendance.
A. 940
B. 495
C. 470
D. 705

13. The area of a square plot is 12.96 Ares. The owner fenced using 4 strands of wire leaving 8m wide gate. Find the total length of the wire used in kilometres.
A. 0.544
B. 0.576
C. 576
D. 0.136

14. The figure below shows a triangular prism.

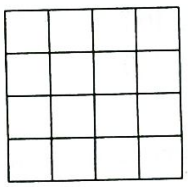


Find the total length of the edges.
A. 720cm
B. 138cm
C. 48cm
D. 114cm

15. Ali weighed 84kg. After some illness, his weight reduced by 10% every week. Find his weight at the beginning of the third week.
A. 68.04kg
B. 61.236kg
C. 64kg
D. 75.56kg

16. The ratio of cows to sheep is 2:3, sheep to donkey's 4:5. If the total animals in the farm are 140, find the number of sheep?
A. 16
B. 12
C. 48
D. 84

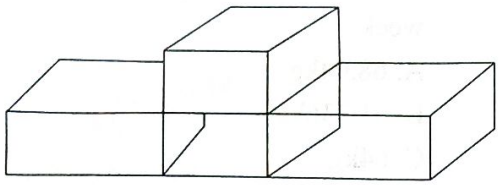
17. How many squares can be counted from the shape below?



A. 17
B. 29
C. 30
D. 25

18. Cylindrical tins of radius 4cm and a height 3cm were packed upright on a rectangular carton measuring 3.2m long, 2.4m wide and 0.3m high. How many cylindrical tins were packed?
A. 1200
B. 4000
C. 400
D. 12000

19. Four square prism were glued together as shown.



How many faces were in contact?

A. 6

B. 8

C. 12

D. 4

20. Nandy bought a shoe for sh 2100 after being allowed 30% discount. How much would he have paid if he were given 16% discount?

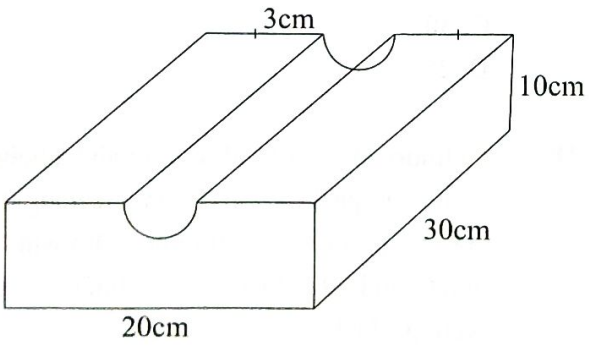
A. sh 1120

B. sh 5880

C. sh 2400

D. sh 2520

21. The cuboid below was drilled a semi-circular hole on the top face.



Find the total surface area in cm^2.

A. $3690cm^2$

B. $2286cm^2$

C. $2163cm^2$

D. $6000cm^2$

22. A square drawing of area $4cm^2$ represented a square land of actual area $16km^2$. Find the ratio scale used.

A. 1:400000

B. 1:40000

C. 1:200000

D. 1:20000

23. Ocholla started $2^3/_4$ days journey on Tuesday 11.02am. Which day and time did he reach his destination?

A. Thursday 5.02am

B. Friday 5.02am

C. Friday 5.02pm

D. Thursday 5.02pm

24. Kibet deposited sh 20000 in a bank which offered simple interest at rate of 3.5%p.a. How much money was in his account after 6 months?

A. sh 4200

B. sh 2400

C. sh 20350

D. sh 350

25. 2.4 tonnes of sugar was packed into equal number of packets of 1kg and 2kg respectively. Find the total packets obtained.

A. 800

B. 2400

C. 1200

D. 1600

26. Round off 304927 to the nearest thousand.

A. 305000

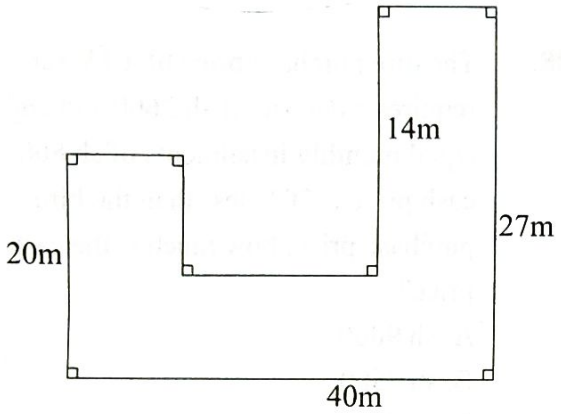
B. 304000

C. 304930

D. 305927

27. Which of the following is true about both a square and a rhombus?
A. All angles are equal
B. One pair of parallel side
C. Diagonals are interior angle bisectors
D. Some angles are equal

28. John runs twice round the shape below.



Find the distance covered.
A. 296m
B. 148m
C. 108m
D. 216m

29. Rahab planted 201 flowers on one side of a road at intervals of 20m. Find the distance of the road in kilometres.
A. 4.02km
B. 4km
C. 4020km
D. 4000km

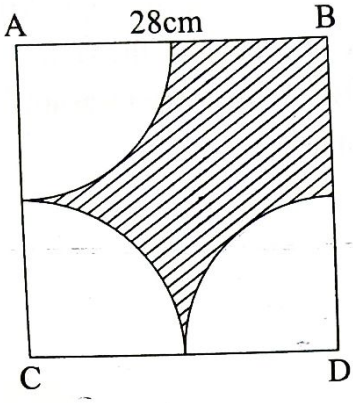
30. Kerry spends half of his salary on rent, third of the remainder on entertainment and saves the rest. If he saves 18000, how much was his total salary?
A. sh 36000
B. sh 27000
C. sh 9000
D. sh 54000

31. Construct triangle ABC such that AB is 2.5cm, BC is 6cm, angle ABC = 90^0. Draw a circle touching the vertices of the triangle ABC. What is the measure of twice its radius?
A. 6.5cm
B. 6cm
C. 3.2cm
D. 13cm

32. Njeru bought 5 trays of eggs at sh 300 per tray. During transportation, 30 eggs broke and sold the rest at sh 15 per egg. If a tray holds 30 eggs, find the percentage profit.
A. 300%
B. $83\frac{1}{3}\%$
C. 20%
D. $16\frac{2}{3}\%$

33. A cyclist rides from his home to the market at a speed of 4km/h. He rides back along the same route at a speed of 6km/h. If he takes a total of 2 hours 30 minutes, what is the average speed for the whole journey?
A. 4.8km/h
B. 5km/h
C. 2.4km/h
D. 6km/h

34. The figure below is a square.



Find the area of the shaded part in cm^2.

A. $168cm^2$

B. $84cm^2$

C. $322cm^2$

D. $462cm^2$

35. A sales man is given a basic salary of sh 32000. He also gets a commission of 3.5% on value of goods sold above 120000. If he sold six TV sets at sh 50000 each. Find his total earnings that month.

A. sh 6300

B. sh 38300

C. sh 63000

D. sh 42500

36. After working for 18 days, Jane was paid sh 36000. How much less was she paid if she was absent for four days?

A. sh 8000

B. sh 4000

C. sh 28000

D. sh 44000

37. A rectangular container measures 0.8m by 0.9m by 100cm. It was filled with water using 5dl cans. How many cans were used?

A. 144

B. 144000

C. 36000

D. 1440

38. The hire purchase price of a TV set requires a deposit of sh 2600 and eight equal monthly instalments of sh 800. If the cash price is 20% less than the hire purchase price, how much is the cash price?

A. sh 9000

B. sh 7500

C. sh 7200

D. sh 10800

39. What is the sum of the first 24 consecutive odd numbers?

A. 48

B. 676

C. 576

D. 594

40. During an election Mwaura got 0.3 of the votes cast, Simba got 0.2 of the votes while Ruto got 0.4 of the total votes. If 100 votes were spoilt, how many more votes did Ruto get than Simba?

A. 200

B. 300

C. 400

D. 20

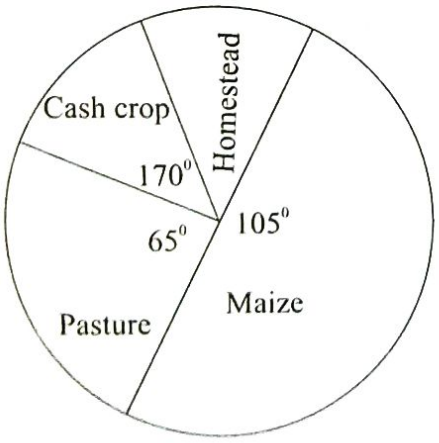
41. Construct a square ABCD. AB is 5cm. Draw a circle touching the vertices. Find its diameter.

A. 3.5cm
B. 5cm
C. 2.5cm
D. 7cm

42. The temperature of a substance 20^0 below freezing point. It was heated and the temperature rose by 70^0C. Find the new temperature.

A. 90^0C
B. 50^0C
C. -90^0C
D. 30^0C

43. The pie chart below shows how Rose used her land.



If she used 130 more hectares on cash crop than maize, how many more hectares did she use for homestead and pasture?

A. 170ha
B. 40ha
C. 130ha
D. 340ha

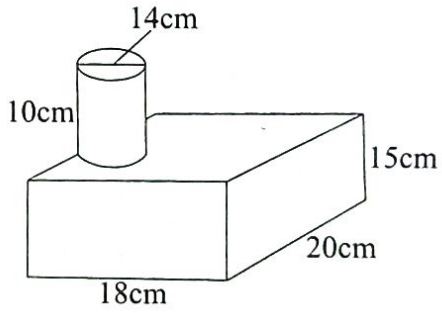
44. What is the simplest form of the ratio: $3\left(\frac{1}{3}-\frac{1}{4}\right):4\left(\frac{1}{6}-\frac{1}{8}\right)$?

A. 4:6
B. 1:4
C. 2:3
D. 3:2

45. The mean of 6 numbers is 6.5, five of the numbers are 3, 4, 9, 7, 4. What is the product of the mode and median of the numbers?

A. 9.5
B. 5.5
C. 4
D. 22

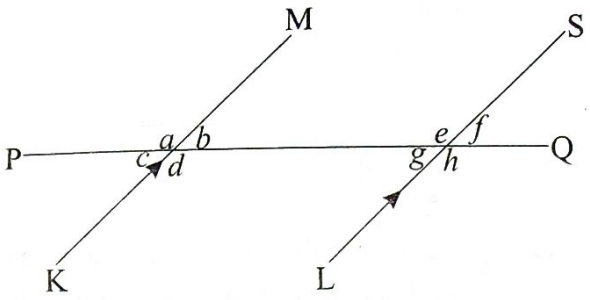
46. The diagram below represents two solids stuck together.



What is the volume of the combined solid?

A. $5400cm^3$
B. $6940cm^3$
C. $2300cm^3$
D. $1540cm^3$

47. In the figure below line KM is parallel to line LS and line PQ is a transversal.



Which of the following is true about the figure?

A. $h + c + d = 360^0$

B. $b + e + f = 360^0$

C. $2(a + b) = 360^0$

D. $a + h + b = 180^0$.

48. The table below shows the matatus fares to different town in shillings.

A					
60	B				
70	50	C			
80	60	30	D		
90	70	50	40	E	
100	80	60	55	20	F

The matatu left town A with 12 passengers to town C 2 passengers alighted and 6 passengers boarded to town F. How much did the conductor collect that day?

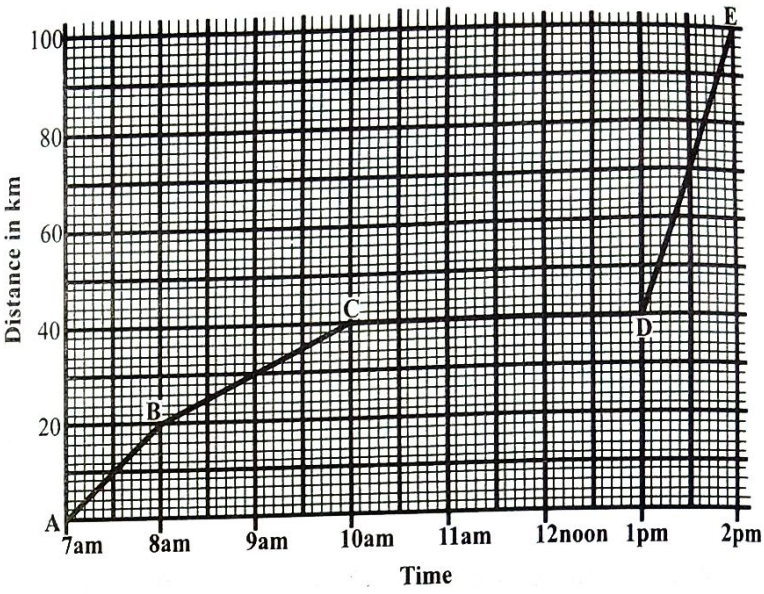
A. sh 1000

B. sh 500

C. sh 1500

D. sh 1800

49. The diagram below shows how Otieno drove from one town to another.



Between which two towns did he drive at the lowest speed?

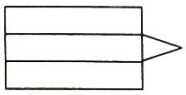
A. B to C

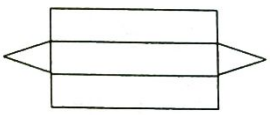
B. A to B

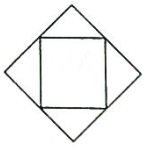
C. C to D

D. D to E

50. Which one of the following nets will make an open square prism?

A. 

B. 

C. 

D.