MERIT 003

TARGETER KCPE THIRD MERIT
STANDARD EIGHT - YEAR 2020

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. What is the squareroot of $\sqrt{625}$?

    A. 25
    B. 15
    C. 35
    D. 5

    The correct answer is **D.**

    On the Answer sheet:

    1 [A] [B] [C] [D] **11** [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.

This question paper consists of 8 printed pages.

Published and Printed by Targeter Educational Publishers Ltd.
Email: info@targeterpublishers.co.ke

TURN OVER

1. What is three million six hundred and forty two thousand eight hundred and six and twenty five hundredths written in symbols?

A. 3642806.0025
B. 3642806.025
C. 30642806.25
D. 3642806.25

2. What is the value of $\frac{3(36-26)+18\div 3}{3\times 4}$?

A. 15
B. 3
C. 6
D. 9

3. How many groups of hundreds are there in the total value of digit 5 obtained in 236 x 23?

A. 5428
B. 5000
C. 50
D. 4

4. The fractions $\frac{7}{8}, \frac{3}{4}, \frac{2}{5}$ and $\frac{5}{8}$ are to be arranged in ascending order. Which one is the correct order?

A. $\frac{2}{5}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$
B. $\frac{7}{8}, \frac{3}{4}, \frac{5}{8}, \frac{2}{5}$
C. $\frac{3}{4}, \frac{2}{5}, \frac{5}{8}, \frac{7}{8}$
D. $\frac{7}{8}, \frac{5}{8}, \frac{2}{5}, \frac{3}{4}$

5. What is the value of $\frac{6.9\times 9.8\times 0.12}{2.3\times 0.14\times 0.06}$?

A. 0.42
B. 420
C. 42
D. 4.2

6. Which one of the numbers below is the square of $2\frac{1}{4}$?

A. $5\frac{1}{16}$
B. $4\frac{1}{16}$
C. $1\frac{1}{2}$
D. $\frac{2}{3}$

7. What is half of $\frac{3}{4}-\frac{1}{2}$ of $\frac{4}{5}\div\frac{2}{3}$?

A. $\frac{3}{20}$
B. $\frac{3}{10}$
C. $\frac{3}{40}$
D. $\frac{3}{5}$

8. What is the next number in the sequence below?
11, 13, 16, 21, 28, 39, ____
A. 52
B. 51
C. 54
D. 53

9. What is the difference between the smallest number that can be divided by 27, 36 and 54 and the largest number that can divide the same numbers without a remainder?

A. 108
B. 9
C. 117
D. 99

10. Kioko was admitted in hospital in the morning of 12th January 2016. He was discharged in the morning of 3rd Match the same year. For how many nights was he in the hospital?

A. 50
B. 51
C. 52
D. 49

11. A school had two streams from std. 5 to std. 8. There were 35 pupils in each class. During the school opening day pupils were given pencils as follows
std. 5 and 6 ..... 3 pencils each.
Std. 7 and 8 ..... 4 pencils each.
How many pencils were given to the pupils altogether?
A. 245
B. 980
C. 490
D. 390

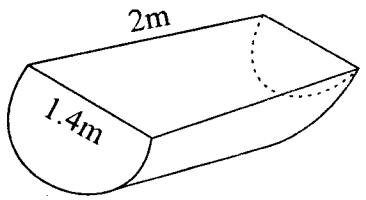
12. What is the number 469.99975 rounded off to the nearest thousandths?
A. 469.999
B. 469.000
C. 470
D. 470.000

13. Maina sold $\frac{1}{4}$ of his cows to Kirui, $\frac{1}{5}$ to Patel and $\frac{1}{8}$ to Wairimu. If he was left with 68 cows, how many cows did he sell?
A. 92
B. 160
C. 272
D. 72

14. In a school there were 1200 pupils in the year 2019. This was 20% more than the number of pupils in the year 2018. How many pupils were there in the year 2018?
A. 1440
B. 1000
C. 240
D. 6000

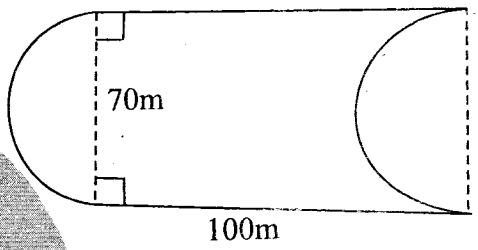
15. A rectangular container has internal length of 3.5m, width of 0.2m and a height of 0.5m. What is its capacity in litres?
A. 35
B. 0.35
C. 3.5
D. 350

16. What is the volume of the solid below?



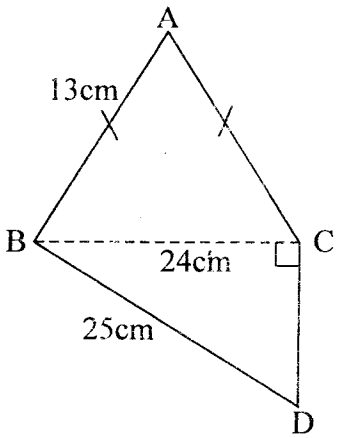
A. $3.08m^3$
B. $1.54m^3$
C. $0.77m^3$
D. $2.8m^3$

17. A piece of land is in the shape shown below



The piece of land was fenced using two strands of barbed wire. What was the total length of wire used?
A. 680m
B. 420m
C. 840m
D. 620m

18. The figure below is made up of an isosceles triangle ABC and a right angled triangle BCD.



What is the area of the figure in cm^2?
A. 144
B. 456
C. 114
D. 240

19. During a competition, John took $1\frac{1}{2}$ hours to cycle from town W to X at an average speed of 24km/h. He cycled back to town W and took $2\frac{1}{2}$ hours. What was his average speed for the round trip?

A. 36km/h
B. 24km/h
C. 18km/h
D. 30km/h

20. A cylinder pipe has a diameter of 14cm and a length of 20m. What is the total surface area of the pipe in cm^2?

A. 1188
B. 1034
C. 12320
D. 88000

21. A meeting began at 11.30am. After 1hour 25 minutes, members went for a 55minute break. The meeting then continued for 1 hour 45minutes. At what time did it end?

A. 1535pm
B. 3.35pm
C. 3.35am
D. 1440h

22. The mass of an empty lorry is 5.4tonnes. A lorry weighs 12.6 tonnes when loaded with bags of green grams each 90kg. How many bags are loaded in such two lorries if they were loaded with equal load?

A. 160
B. 80
C. 72
D. 144

23. Which of the following sets of measurements can form a right angled triangle?

A. 2.5m, 6cm, 8cm
B. 0.3m, 0.4m, 5m
C. 6cm, 8cm, 12cm
D. 5cm, 12cm, 13cm

24. Tom is x years old now. He is 5 years older than his wife. What will be the sum of their ages after 10years?

A. $x+15$
B. $2x+25$
C. $2x+15$
D. $x+20$

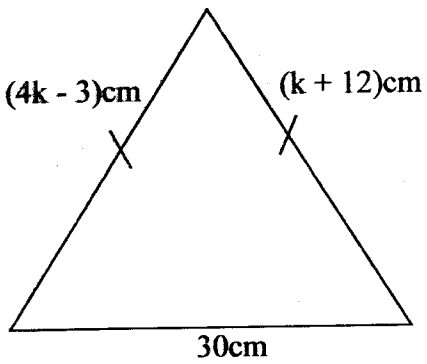
25. What is the value of p in $\frac{p+2}{3}+\frac{p-1}{2}=6$?

A. 7
B. $7\frac{2}{5}$
C. 8
D. $5\frac{4}{5}$

26. What is the value of $a^2(2b - c)$ if a = 8, b = 6 and c = 4?

A. 64
B. 512
C. 8
D. 128

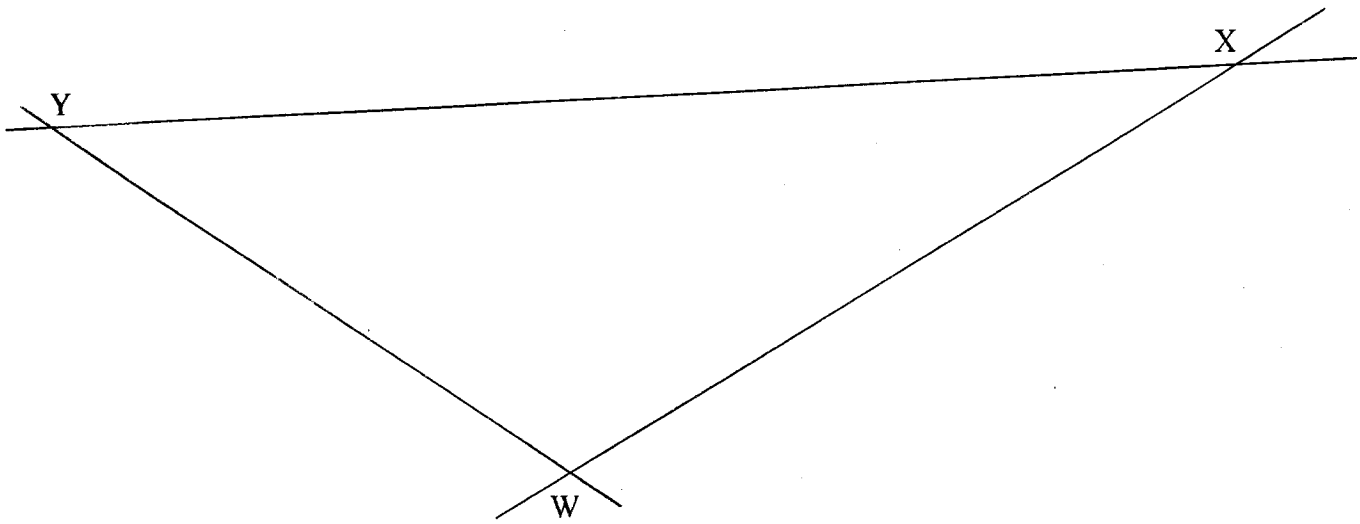
27. The figure below is an isosceles triangle



What is the distance round the triangle in cm?

A. 5
B. 34
C. 64
D. 5k + 45

28. Triangle WXY shown below is drawn accurately



What is the size of angle XWY?

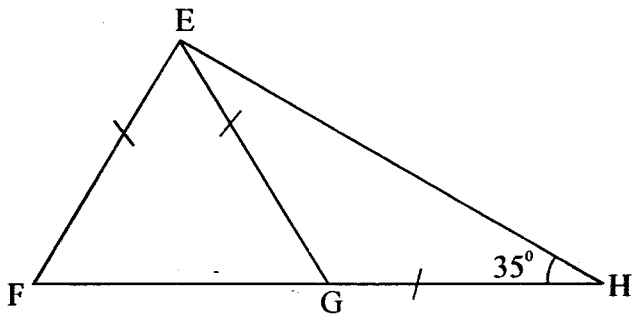
A. 125^0

B. 65^0

C. 22^0

D. 115^0

29. In the figure below EF = EG = GH. Angle EHG = 35^0.



What is the size of angle FEG?

A. 40^0

B. 110^0

C. 70^0

D. 35^0

30. Construct a triangle RST such that line RS = 8cm, angle RST=105^0 and line ST = 6cm. Drawing a circle touching the three vertices. What is the length of the radius of the circle?

A. 1.9cm

B. 3.8cm

C. 5.9cm

D. 4.5cm

31. Which of the following statements are true about all triangles?

(i) All angles are equal

(ii) One angle is 90^0

(iii) Sum of exterior angles is 360^0

(iv) Sum of interior angles is 180^0

(v) Two angles are equal

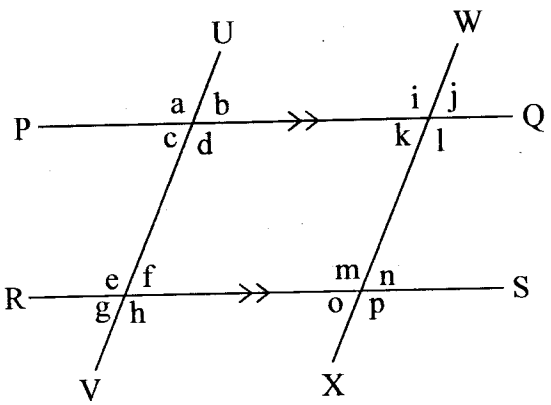
A. i, ii

B. iii, iv

C. iii, v

D. iv, v

32. In the figure below line PQ is parallel to RS and line UV is parallel to WX.



Which one of the following statements is not true about the figure?

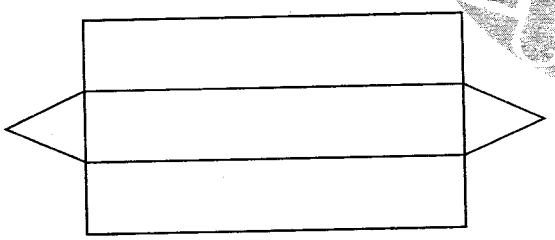
A. Angle b and l are alternate.

B. Angle f = Angle k

C. $d + f + m + k = 360^0$

D. Angle h and o are co-interior

33. The following figure shows a net of which of the following solids?



A. Triangular based pyramid.

B. Square prism.

C. Rectangular prism.

D. Triangular prism.

34. In a certain school the number of boys was 360 and the total number of pupils was 640. What was the ratio of girls to boys in the school?

A. 7:9

B. 9:7

C. 9:16

D. 16:9

35. A certain piece of work can be done by 6 people in 24 days. How many more days can the work take if two people are absent?

A. 36

B. 48

C. 72

D. 12

36. What is the ratio $1\frac{1}{2} : 1\frac{1}{3}$ expressed as a ratio of whole numbers?

A. 8:9

B. 9:8

C. 2:3

D. 3:4

37. Akinyi paid sh. 480 for a dress after she was allowed a discount of 20%. How much would she have paid if the discount was 10%?

A. sh. 540

B. sh. 432

C. sh. 720

D. sh. 440

38. A sales agent is paid a basic salary of sh. 20000 plus a 4% commission on value of goods sold above sh. 50000. What was his total earning in a month he sold goods worth sh. 250000?

A. sh. 32000

B. sh. 30000

C. sh. 28000

D. sh. 8000

39. The marked price of a TV set was sh. 36000. The hire purchase price was $\frac{1}{4}$ more than the marked price. Kazungu paid a deposit of sh. 15000 and the rest in 15 equal monthly instalments. How much was each instalment?

A. sh. 9000

B. sh. 2000

C. sh. 3000

D. sh. 4500

40. Adaku bought the following items from a supermarket:

3kg of cowpeas @ sh. 180

$2\frac{1}{2}$ litres of cooking fat for sh. 400

$1\frac{1}{2}$ kg of meat @ sh. 300

2 pineapples at sh. 60 per fruit

Three loaves of bread @ sh. 75

She gave the cashier two-one thousand shilling notes. How much balance did she get?

A. sh. 1735

B. sh. 1635

C. sh. 365

D. sh. 265

41. Wanyama borrowed sh. 40000 from a bank that charged a simple interest at a rate of 10% per annum. After how many years did he pay back a total of sh. 48000?

A. 4

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

C. 2

D. 12

42. The table below shows postal charges for sending parcels

Parcels	upto 5kg	70.00
Limit of weight 50kg	over 5kg upto 10kg	105.00
	over 10kg upto 15kg	170.00
	over 15kg upto 20kg	210.00
For each additional 1kg or part thereof upto 50kg		10.00

Adaya sent two parcels one weighing 12kg and another one 21kg. How much did he pay for postage?

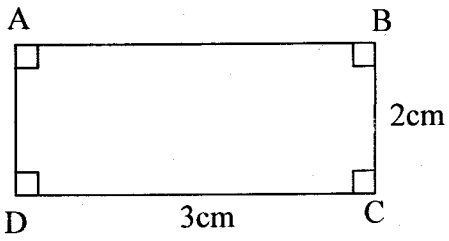
A. sh. 390

B. sh. 380

C. sh. 430

D. sh. 210

43. A rectangular piece of land is represented in a map by a rectangle measuring 3cm by 2cm.



If the scale used in the map is 1:10000, what is the actual length of side AB in metres?

A. 3

B. 30000

C. 300

D. 3000

44. Six pupils scored a mean of 84 in a mathematics test. Five of these pupils scored 90, 86, 72, 82 and 74.

Pupils	Ali	Maingi	Mutiso	Atieno	Agnes	Maria
Score (%)	90	86	___	72	82	74

What score did Mutiso get?

A. 90

B. 80

C. 84

D. 100

45. A shopkeeper had money in form of notes as follows

Value of note in shillings	1000	500	200	100	50
Number of notes	8	12	30	15	40

He changed the money in sh. 100 notes. How many notes did he get?

A. sh. 23500

B. sh. 235

C. sh. 18.5

D. sh. 225

46. The table below shows different types of animals in a farm

Type of animal	Cows	Goats	Sheep
Number	4	12	20

If this information is represented in a pie chart, how many more degrees will represent sheep than cows?

A. 160^0

B. 40^0

C. 200^0

D. 240^0

47. The table below shows distance in kilometres between town K and N.

K

30	L		
40	50	M	
70	60	40	N

Kamau travelled from town K to N via L and M. What distance did he cover?

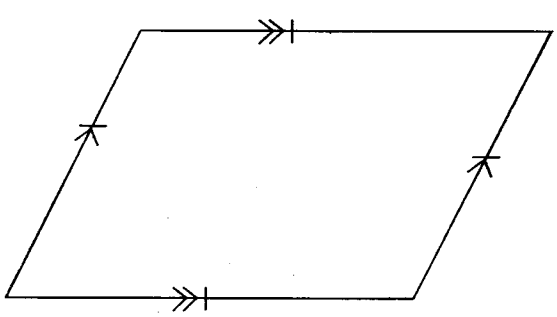
A. 70km

B. 120km

C. 170km

D. 110km

48. Which of the following statements is true about the quadrilateral below?



A. Diagonals are equal.

B. Diagonals bisect the angles perpendicularly.

C. Interior angles add upto 180^0

D. Diagonals bisect each other

49. In a leap year 13th January was on Monday. What day of the week was 5th March?

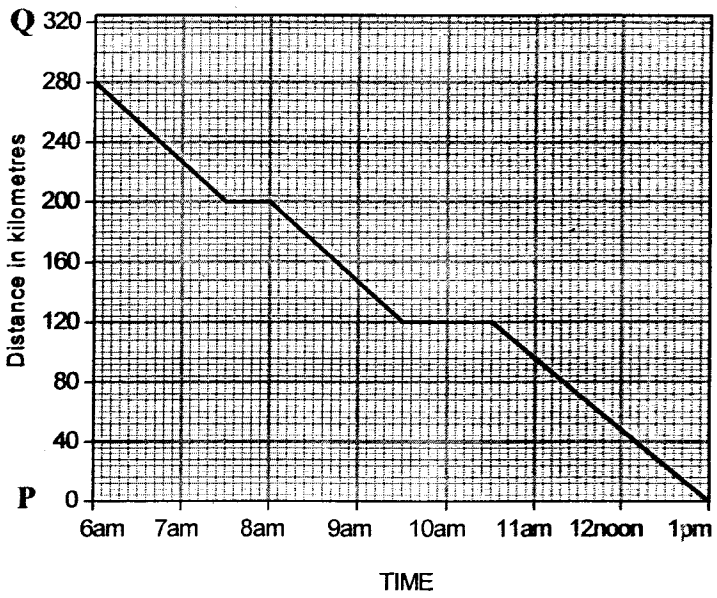
A. Wednesday.

B. Friday.

C. Thursday.

D. Tuesday.

50. The graph below shows a journey by a motorist from town P to Q



What was his average speed from 8.00am to 1pm?

A. 40km/h

B. 80km/h

C. 70km/h

D. $53\frac{1}{3}$ km/h