



DOUBLE MERIT NATIONAL EXAMINATION

STANDARD 7 - YEAR 2021

MATHEMATICS

Time: 2 hours

2ND MERIT

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.

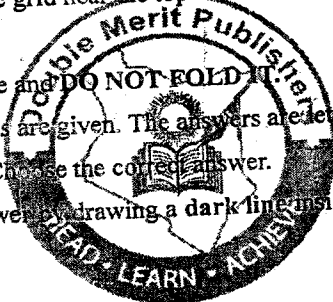
4. Use an ordinary pencil only.
5. Make sure that you have written on the answer sheet:-

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

34. What is the value of $0.204 \div (0.02 \times 0.17)$?

- A. 0.06
- B. 6
- C. 0.6
- D. 60

The correct answer is D.

34 [A] [B] [C] [D]

35 [A] [B] [C] [D]

36 [A] [B] [C] [D]

37 [A] [B] [C] [D]

In the set of boxes number 34, 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.

1. What is nine million one hundred and nine thousand and nine written in symbols?

- A. 9100909
- B. 9109009
- C. 9019009
- D. 9010909

2. In a polling station the number of registered voters was 679495. What was the number rounded off to the nearest ten thousands?

- A. 680000
- B. 679000
- C. 700000
- D. 679500

3. What is the sum of the total values of digits 6 and 2 in the number 864280?

- A. 6020
- B. 60200
- C. 860200
- D. 62000

4. What is the value of 96120 divided by 24?

- A. 4005
- B. 405
- C. 45
- D. 40005

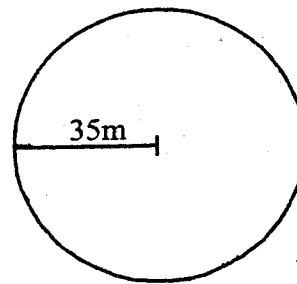
5. What is the value of $\frac{1}{8} + \left(\frac{1}{3} \div \frac{1}{6}\right)$?

- A. $2\frac{1}{6}$
- B. $4\frac{1}{24}$
- C. $2\frac{1}{8}$
- D. $\frac{5}{8}$

6. What is the place value of digit 4 in the number 58.3948?

- A. Thousandths
- B. Hundredths
- C. Ten thousandths
- D. Tens

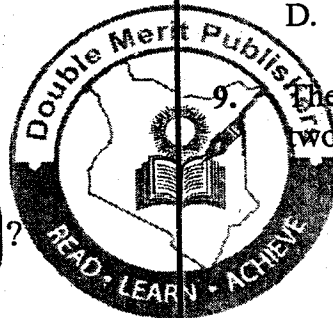
7. What is the circumference of the circle drawn below?



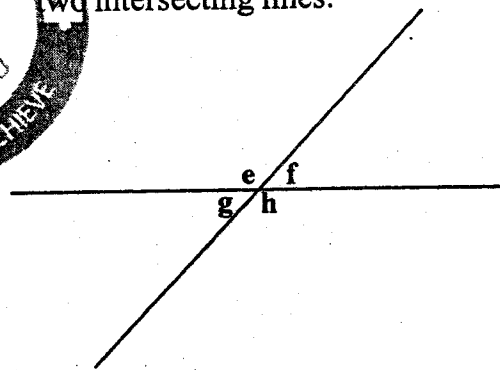
- A. 220m
- B. 290m
- C. 110m
- D. 255m

8. A hotel buys 41.5 litres of milk every day. How many litres of milk did the hotel buy in the month of January, February and March year 2021?

- A. 3776.5l
- B. 3735l
- C. 3818l
- D. 3776.25l



9. The figure below shows angles formed by two intersecting lines.



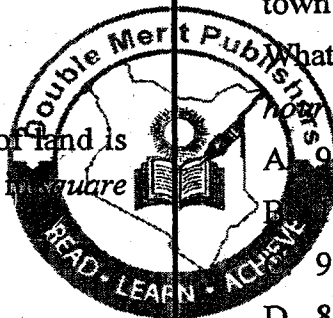
Which of the following pair of angles are vertically opposites?

- A. *f* and *h*
- B. *g* and *h*
- C. *f* and *g*
- D. *e* and *f*

10. What is the next number in the series 12, 14, 17, 22, 29 _____?

- A. 38
- B. 42
- C. 40
- D. 46

11. What is the actual length of a road in kilometres that measures 4cm on a map drawn to a scale of 1:400000?
- A. 160km
B. 1.6km
C. 16km
D. 0.16km
12. A sales lady salary of sh. 4000 was increased by 16%. What was the new salary of the sales lady?
- A. sh. 640
B. sh. 3360
C. sh. 4640
D. sh. 10460
13. A dairy company donated 60 carton of milk to a pre-school. If each carton contained 80-2dl packet of milk, how many litres of milk was donated?
- A. 9.6
B. 9600
C. 96
D. 960
14. The perimeter of a square plot of land is 216m. What is the area of the plot in square metres?
- A. 2816m²
B. 864m²
C. 2916m²
D. 46656m²
15. Muli bought the following items from a supermarket.
- 1kg sugar @ sh. 115
1/2kg rice @ sh. 110
2kg maize flour for sh. 130
2 loaves of bread @ sh. 45
- If he paid using sh. 1000 note, how much balance did he get back?
- A. sh. 725
B. sh. 610
C. sh. 275
D. sh. 390
16. Which of the following statement is incorrect about an equilateral triangle?
- A. All sides are equal
B. Sum of angles add upto 180°
C. All angles are equal
D. Base angles are equal
17. A train left Nairobi at 6.15pm and took $2\frac{1}{4}$ hrs to reach Mombasa. At what time in 12 hour clock system did it reach Mombasa?
- A. 8.30am
B. 7.45pm
C. 8.30pm
D. 7.45am
18. A motorist drove from Nakuru to Naivasha town a distance of 360km taking 4 hours. What was the average speed in kilometres per hour for the journey?
- A. 90km/hr
B. 20km/hr
C. 90km/hr
D. 80km/hr
19. What is the L.C.M of 30, 40 and 60?
- A. 10
B. 120
C. 240
D. 180
20. The table below shows number of eggs sold by a vendor in a week.
- | Days | Mon | Tue | Wed | Thur | Fri | Sat | Sun |
|----------|-----|-----|-----|------|-----|-----|-----|
| No. sold | 22 | 16 | 22 | 17 | 24 | 20 | 26 |
- What is the mean number of eggs sold in the week?
- A. 22
B. 17
C. 21
D. 20



21. Using a ruler and a pair of compass construct triangle XYZ such that line $XY=8\text{cm}$, $YZ=7\text{cm}$ and $XZ = 6.5\text{cm}$. Measure the size of angle YZZ .
- A. 58°
 B. 105°
 C. 75°
 D. 47°

22. Which of the following is the correct order of arranging $\frac{3}{5}, \frac{5}{8}, \frac{7}{10}$ and $\frac{1}{2}$ from the largest to the smallest?

A. $\frac{1}{2}, \frac{3}{5}, \frac{5}{8}, \frac{7}{10}$

B. $\frac{3}{5}, \frac{7}{10}, \frac{5}{8}, \frac{1}{2}$

C. $\frac{1}{2}, \frac{7}{10}, \frac{5}{8}, \frac{3}{5}$

D. $\frac{7}{10}, \frac{5}{8}, \frac{3}{5}, \frac{1}{2}$

23. The table below show timetable of a bus between different towns

Town	Arrival time	Departure time
Nairobi	_____	9.10am
Naivasha	10.25pm	10.40am
Gilgil	12.10pm	12.25pm
Nakuru	1.50pm	2.10pm
Eldoret	2.45pm	_____

How long did the bus take to travel from Naivasha town to Nakuru?

A. $3\frac{1}{6}\text{hrs}$

B. $1\frac{5}{6}\text{hrs}$

C. $3\frac{1}{2}\text{hrs}$

D. $2\frac{3}{4}\text{hrs}$

24. What is the difference between the L.C.M of 15, 20 and 25 and the G.C.D of 45, 75 and 90?

A. 315

B. 10

C. 85

D. 285

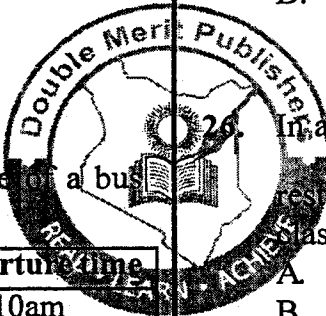
25. A lorry is carrying 90 cartons each holding 40 tins of cooking fat. If each tin weighs 500g, what was the total mass of tins in kilograms?

A. 1.8kg

B. 180kg

C. 1800kg

D. 0.18kg



26. In a class the number of boys is $\frac{1}{3}$ and the number of girls are girls. If there were 40 girls in the class, how many pupils were there in total?

A. 60

B. 35

C. 75

D. 90

27. A lady sold milk from 12th January to 9th March 2020. For how many days did she sell the milk?

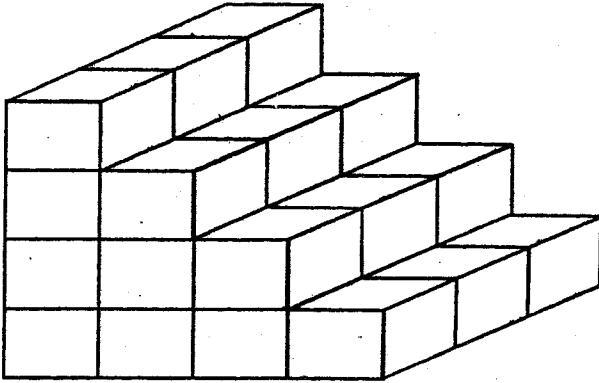
A. 58

B. 59

C. 57

D. 56

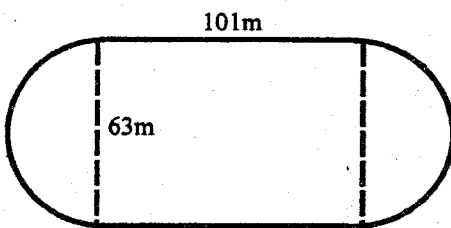
28. The figure below represents a stack made of cuboids.



How many cuboids are used to make the stack drawn above?

- A. 33
B. 32
C. 30
D. 27
29. Using a ruler and a pair of compass construct triangle MNT such that line $MN = 5\text{ cm}$, $NT = 4\text{ cm}$ and angle $MNT = 120^\circ$. Bisect angle MNT and let the bisector meet line MT at S . Measure the length of line MS .
- A. 4.3 cm
B. 7.8 cm
C. 2.3 cm
D. 3.4 cm

30. The figure below shows a school ground.



An athlete run all round the field two times, how many metres did he cover?

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

- A. 400 m
B. 526 m
C. 800 m
D. 1052 m

31. What is 7.5% written as a fraction to its simplest form possible.

- A. $\frac{15}{2}$
B. $\frac{3}{4}$
C. $7\frac{1}{2}$
D. $\frac{3}{40}$

32. The table below shows postal rates for sending money order.

Order value in shs.	Commission
Not exceeding 500	sh. 42
501 - 1000	sh. 144
1001 - 3000	sh. 174
3001 - 5000	sh. 209
5001 - 10000	sh. 295
10001 - 20000	sh. 441
20001 - 30000	sh. 617

Mr. Mwangi sent school fees for his two children which follows sh. 10500 and sh. 17400 respectively. How much commission did he pay at the post office?

- A. sh. 617
B. sh. 1058
C. sh. 736
D. sh. 882

33. What is the value of $\frac{3^2 + 15}{3} - 4$?

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

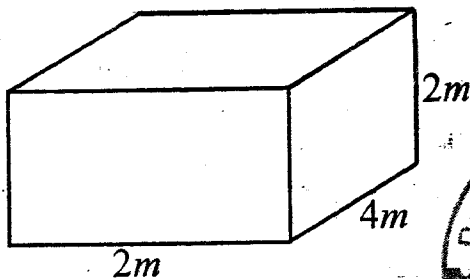
34. What is the value of $\frac{16.42 - (3.16 + 8.4)}{2.43}$?

- A. 0.2
- B. 200
- C. 2
- D. 20

35. A staff meeting ended at 5.00pm after taking 5 hours 55 minutes. At what time did the meeting started?

- A. 12.55pm
- B. 11.05am
- C. 12.05pm
- D. 11.55am

36. The figure below shows a rectangular tank.



If the tank is to be filled with water using 200 litres containers, how many containers will be required to fill the tank?

- A. 240
- B. 160
- C. 480
- D. 320

37. A square garden has an area of $10.24m^2$. What is the length of each side in centimetres?

- A. 3.2cm
- B. 3200cm
- C. 320cm
- D. 32cm

38. Work out the value of $2\frac{2}{3} \times 3\frac{1}{2}$?

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

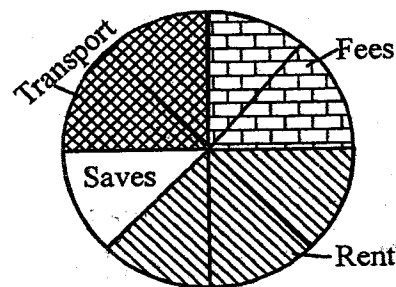
39. In a harambee there were 850 adults and 457 children. If each adult contributed sh. 200 and each child contributed sh. 100, how much money was collected altogether?

- A. sh. 215700
- B. sh. 176400
- C. sh. 91400
- D. sh. 21750

40. What is the value of $5(3y - 2x) - 13y + 6x$ to its simplest form possible?

- A. $28y + 4x$
- B. $2y + 4x$
- C. $2y - 4x$
- D. $28y + 16x$

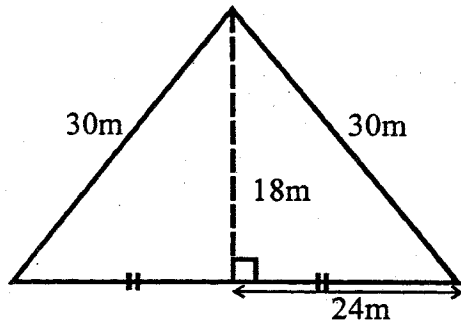
41. The pie chart below shows how a lady spent her salary.



If her salary was sh. 56000, how much money did she spent on rent?

- A. sh. 21000
- B. sh. 14000
- C. sh. 28000
- D. sh. 32000

42. What is the area of the triangle drawn below.



- A. $720m^2$
- B. $270m^2$
- C. $432m^2$
- D. $216m^2$

43. Joel got 80% of the total marks in the end term examination. If the total marks was 500, how many marks did he lose on the examination?

- A. 100
- B. 140
- C. 400
- D. 360

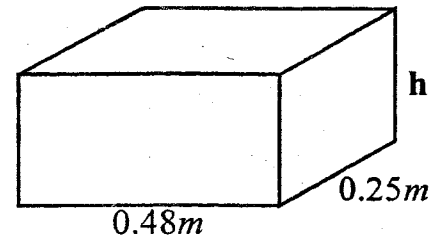
44. What is the value of t in the equation $4t - 6 + 36t = 60$?

- A. $1\frac{3}{4}$
- B. $1\frac{17}{20}$
- C. $1\frac{3}{5}$
- D. $1\frac{13}{20}$

45. The price of a text book is sh. 600. If the price was decreased by 15%, what was the new price of the book?

- A. sh. 570
- B. sh. 690
- C. sh. 450
- D. sh. 510

46. The diagram below shows a cuboid whose length is $0.48m$ and a width of $0.25m$.

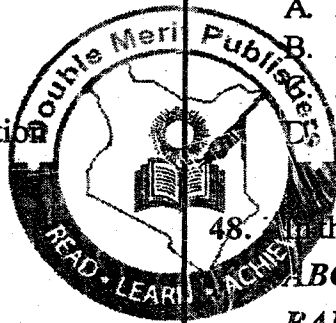


If its volume is $0.042m^3$, what is the length of its height (h) in centimetres?

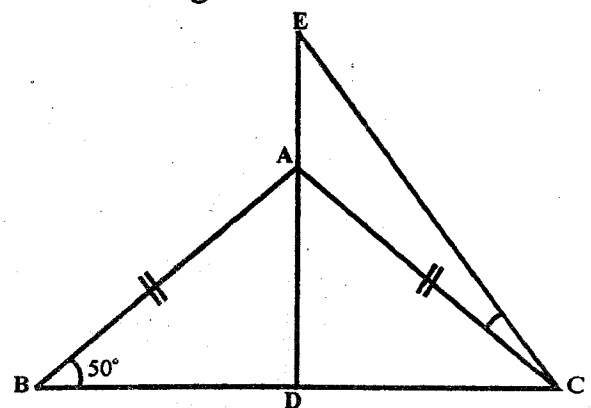
- A. 55cm
- B. 38cm
- C. 35cm
- D. 28cm

47. A vendor sold 2500 copies of daily nation news paper at sh. 70 each. If the vendor got 8% of the total sales, how much money did the vendor receive from the sales?

- A. sh. 50000
- B. sh. 14000
- C. sh. 35000
- D. sh. 70000



48. In the figure below line $AB = AC$, angle $ABC = 50^\circ$, angle $ECA = 15^\circ$ and angle $BAD = \text{angle } DAC$.

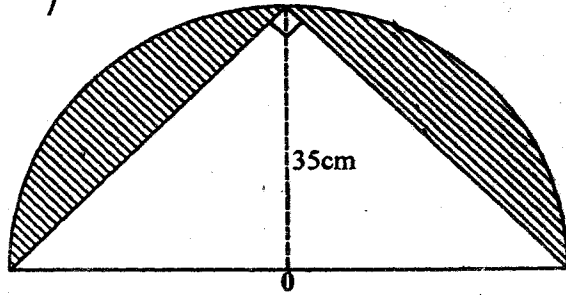


What is the size of angle AEC ?

- A. 30°
- B. 25°
- C. 15°
- D. 20°

49. In the figure drawn below, the radius of the circle is 35cm with a centre O.

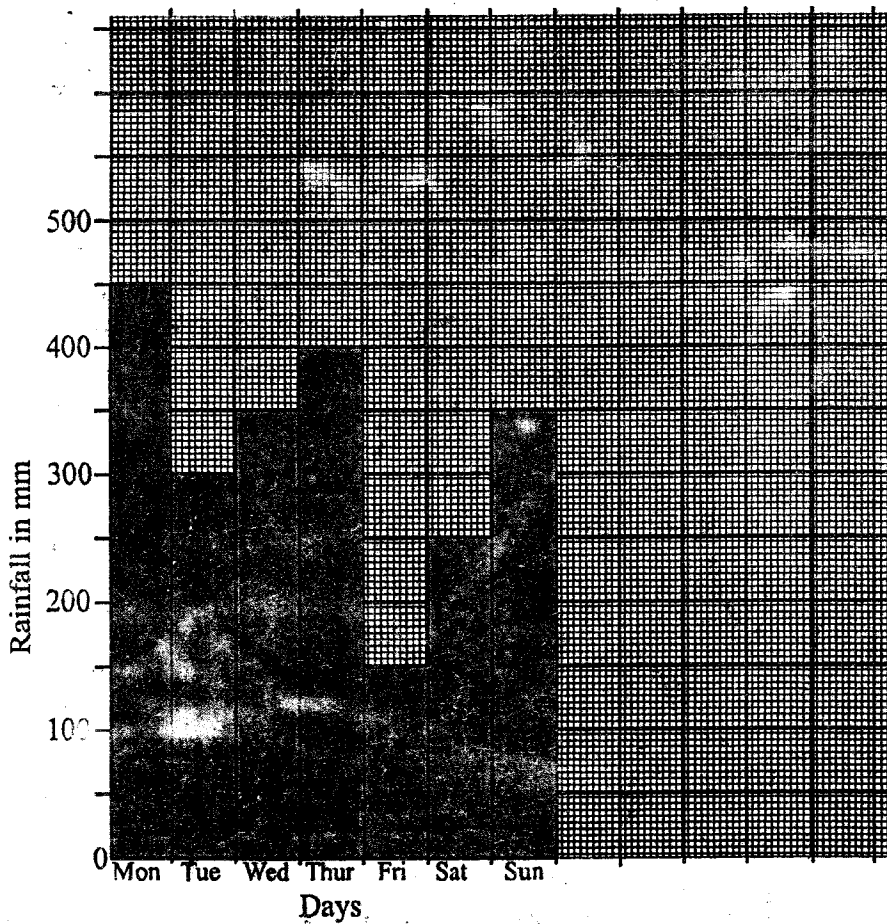
(Take $\pi = \frac{22}{7}$)



What is the area of the shaded part?

- A. 3850cm^2
- B. 2450cm^2
- C. 1400cm^2
- D. 700cm^2

50. The bar graph drawn below shows amount of rainfall recorded in a week.



What was the amount of rainfall recorded in the last four days of the week?

- A. 1055mm
- B. 2250mm
- C. 1100mm
- D. 1150mm