

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. 308cm²
- B. 2464cm²
- C. 616cm²
- D. 1232m²

The correct answer is **B** (2464cm²)

On the answer sheet:

4 | A | B | C | D | **14** | 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 three million two hundred and seven thousand two hundred and seventy?
 - A. 3 270 207
 - B. 3 207 207
 - C. 3 027 270
 - D. 3 207 270

2. What is 2.78989 rounded off to three decimal places?
 - A. 2.789
 - B. 2.790
 - C. 2.799
 - D. 2.780

3. Nyatoro went for holiday from 7th September to 28th December 2020. For how many days was he on holiday?
 - A. 112
 - B. 111
 - C. 113
 - D. 110

4. What is the difference between the total value of digit 6 and digit 9 in the number 2638942?
 - A. 3
 - B. 599 100
 - C. 600 900
 - D. 638 042

5. What is the sum of edges and vertices of a triangular prism?
 - A. 15
 - B. 20
 - C. 13
 - D. 16

6. Joel borrowed Sh.200 000 from a Sacco that charged simple interest at the rate of 6% per annum. How much in total did he pay after two years?
 - A. Sh.24 000
 - B. Sh.12 000
 - C. Sh.224 000
 - D. Sh.212 000

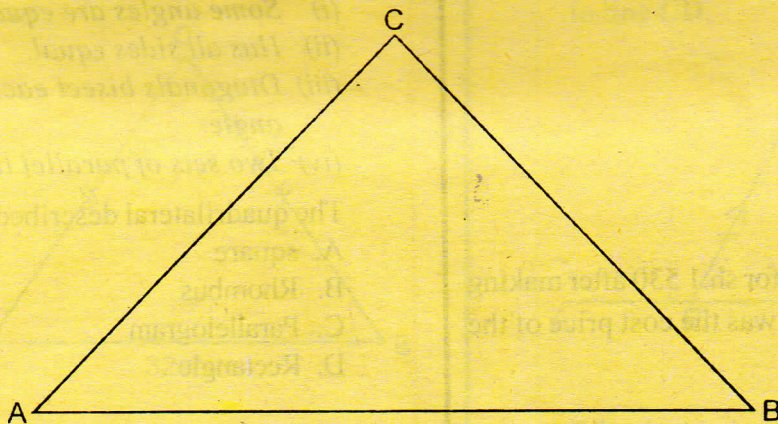
7. What is the next number in the pattern? 0.8, 1.6, 3.2, 6.4, ____
 - A. 9.6
 - B. 13.8
 - C. 12.4
 - D. 12.8

8. What is the sum of LCM and GCD of 30,36,48?
 - A. 726
 - B. 720
 - C. 6
 - D. 714

9. A rectangular plot measures 80m by 60m. What is twice the length of the diagonal?
 - A. 100m
 - B. 200m
 - C. 120m
 - D. 240m

10. Achieng bought the following items from a shop.
 - 4 packets of wheat flour at sh.130
 - 3½ kg sugar @ sh.120
 - 3 bars of washing soap @sh.105
 - 1 kg salt for sh.45
 - 3 rolls of tissue for sh.150
 If she paid using 2 - 1000 shilling notes, how much balance did she get?
 - A. Sh.1 450
 - B. Sh.1 750
 - C. Sh.550
 - D. Sh.250

11. The triangle ABC below has been drawn to scale.



What is the size of angle BCA?

- A. 47°
- B. 88°
- C. 46°
- D. 90°

12. What is the value of $\frac{0.5 \div 0.2 + 0.25}{1.25 \times 2}$?

- A. 0.11
- B. 1.1
- C. 11
- D. 110

13. In the year 2019 Wafula harvested 840 bags of maize. In the year 2020 the harvest increased by 40%. What if he sold all the maize for the two years at sh.2 400. How much money did he get?

- A. Sh.2 016
- B. Sh.4 838 400
- C. Sh.2 822 400
- D. Sh.1 176

14. The fractions $\frac{3}{7}$, $\frac{4}{9}$, $\frac{3}{8}$ and $\frac{5}{6}$ are to be arranged in order from the smallest to the largest. What is the **correct** order?

- A. $\frac{5}{6}$, $\frac{4}{9}$, $\frac{3}{7}$, $\frac{3}{8}$
- B. $\frac{4}{9}$, $\frac{3}{8}$, $\frac{3}{7}$, $\frac{5}{6}$
- C. $\frac{5}{6}$, $\frac{3}{7}$, $\frac{3}{8}$, $\frac{4}{9}$
- D. $\frac{3}{8}$, $\frac{3}{7}$, $\frac{4}{9}$, $\frac{5}{6}$

15. A distance of 9km is represented by 3cm on a map. What is the scale used?

- A. 1:3 000
- B. 1:30 000
- C. 1:300 000
- D. 1:3 000 000

16. What is the value of $7(8^2 - 6^2) + 81 \div 27$?

- A. 199
- B. 17
- C. 1375
- D. 209

17. What is the value of $\frac{3(2x + 4)}{4} - 6 = 8$?

- A. $7\frac{1}{3}$
- B. $8\frac{2}{3}$
- C. $6\frac{2}{3}$
- D. $3\frac{2}{3}$

18. Njagi sold an item for sh.1 530 after making a 15% loss. What was the cost price of the item?

- A. Sh.1 830
- B. Sh.2 400
- C. Sh.2 000
- D. Sh.1 800

19. Twenty four litres of milk was shared equally to 60 pupils. How many decilitres did each get?

- A. 0.4
- B. 4
- C. 40
- D. 400

20. What is the simplest form of the expression

$$\frac{3(2x + 4y) + 2(4x + 3y)}{2x - 2y + 4y}$$

- A. $\frac{14x + 18y}{2x + 2y}$
- B. $\frac{7x + 9y}{x + y}$
- C. $\frac{7y + 9x}{x + y}$
- D. $\frac{14x + 18y}{2x + 6y}$

21. A certain quadrilateral has the following properties.

- (i) *Some angles are equal.*
- (ii) *Has all sides equal.*
- (iii) *Diagonals bisect each other at right angle.*
- (iv) *Two sets of parallel lines.*

The quadrilateral described above is a

- A. square
- B. Rhombus
- C. Parallelogram
- D. Rectangle

22. An aeroplane flew from Cairo on Tuesday at 9:10pm and landed at Pretoria $8\frac{2}{3}$ hours later. At what time did the plane land at Pretoria?

- A. Wednesday 5:50pm
- B. Tuesday 5:50pm
- C. Wednesday 5:50am
- D. Tuesday 5:50am

23. Terry and Tracy shared some money such that Terry got $\frac{3}{7}$ of the money. What is the ratio of Tracy share to the total?

- A. 3:4
- B. 4:3
- C. 3:7
- D. 4:7

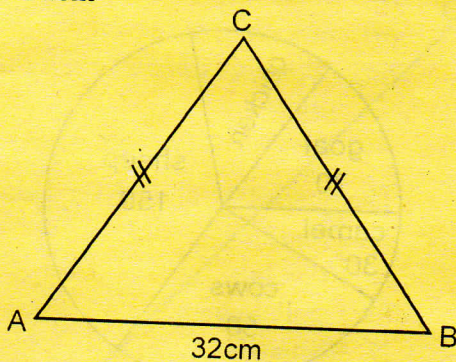
24. What is the surface area of a closed cylinder whose diameter is 28cm and a height of 20cm?

- A. 2992cm^2
- B. 616cm^2
- C. 1760cm^2
- D. 2678cm^2

25. Karisa paid sh.10 560 for a generator after getting 12% discount. What was the marked price?

- A. Shs 15 000
- B. Shs 10 800
- C. Shs 12 000
- D. Shs 9 292.80

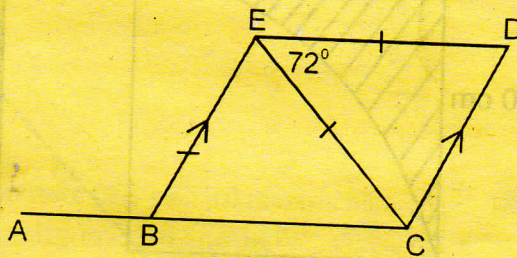
26. The diagram below shows an isosceles triangle whose perimeter is 100cm. Line $AB=32\text{cm}$



What is the area of the triangle?

- A. 960cm^2
 B. 480cm^2
 C. 120cm^2
 D. 544cm^2
27. Nine pupils scored the following marks in a test.
 28, 47, 32, 37, 39, 43, 42, 36, 38
- What was their mean score?
- A. 38
 B. 39
 C. 42
 D. 37
28. Ahmed is twice as old as Hassan but eight years younger than Kassim. If Hassan is x years, what will be the sum of their ages in 6 years to come?
- A. $5x + 26$
 B. $5x + 8$
 C. $4x + 26$
 D. $4x + 18$

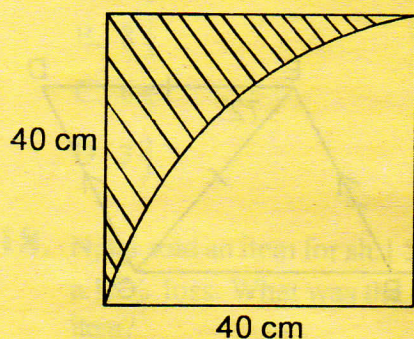
29. In the figure below line ABC is a straight line. Line $EB=EC=ED$. Line BE is parallel to line CD .



What is the size of angle BCD ?

- A. 63°
 B. 54°
 C. 117°
 D. 126°
30. The hire purchase price of a generator includes a deposit of sh.4 000 and eight equal monthly instalments of sh.2 500. If the hire purchase price of the generator is 20% more than the marked price, what is the marked price?
- A. Sh.24 000
 B. Sh.28 800
 C. Sh.20 000
 D. Sh.30 000
31. The perimeter of a square is 224m. What is its area?
- A. 56m^2
 B. 50176m^2
 C. 112m^2
 D. 3136m^2
32. What is the value of $\frac{8(5^2 - 3^2) + 9 \times 4}{\sqrt{16}}$?
- A. 164
 B. 82
 C. 20.5
 D. 41

33. The figure below shows a quarter a circle cut out from a square.



What is the area of the remaining part of the square? (Take $\pi = 3.14$)

- A. 125cm^2
- B. 1600cm^2
- C. 344cm^2
- D. 314cm^2

34. An open rectangular tank measures 1.2m long by 0.9m wide by 2.0m high. What is its capacity when full?

- A. 2.16
- B. 21.6
- C. 216
- D. 2160

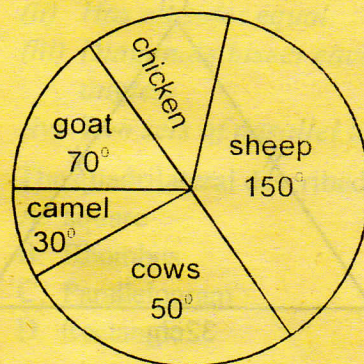
35. At a prayer rally there were 2850 children. The number of women was half the number of men who were a third of children. How many people attended the prayer rally altogether?

- A. 3800
- B. 4275
- C. 4700
- D. 4550

36. Jane a saleslady earns a basic salary of sh.12 000. She is also paid a 5% commission on all the sales she makes. How much money did she earn in a month she sold goods worth sh.250 000?

- A. Sh.24 500
- B. Sh.12 500
- C. Sh.125 000
- D. Sh.30 000

37. The pie chart below shows the number of animals at Hassan farm.



If there are 1400 goats how many more chicken than cows are there?

- A. 1000
- B. 200
- C. 1200
- D. 7200

38. A tank was $\frac{1}{3}$ full of water. When 144 litres are added the tank becomes $\frac{2}{5}$ full. What is the capacity tank when full?

- A. 2160
- B. 1232
- C. 864
- D. 4320

39. Which of the following sets of measurement will form a right angled triangle?

- A. 5m, 12m, 1.3m
- B. 10m, 24m, 26m
- C. 8m, 16m, 17m
- D. 9m, 12m, 16m

40. Jamal bought a cow at sh.35 000. During the dry season he sold it making 15% loss. At what price did he sell the cow?

- A. Sh 40 250
- B. Sh 28 750
- C. Sh 29 750
- D. Sh 24 500

41. Joy and Josephine shared some money in the ratio 3:4. If joy got sh 4000 less than Josephine, how much did they share altogether?
- A. Sh. 28 000
 B. Sh. 12 000
 C. Sh. 21 000
 D. Sh. 16 000

42. A wheel has a radius of 28cm. how many kilometres does it cover if it makes 2000 revolution?
- A. 3.52km
 B. 352km
 C. 3520km
 D. 352000km

43. The table below shows the fare in shillings for a bus in a certain route.

A				
120	B			
170	120	C		
230	190	120	D	
320	270	200	130	E

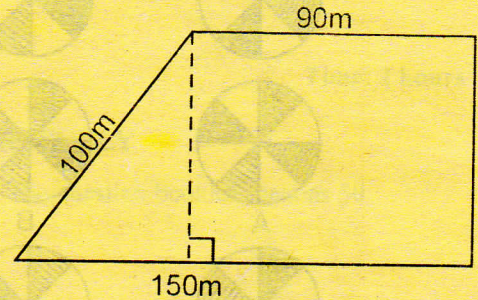
Charles, his wife and their two daughters travelled from town A to town E via C. How much did they pay altogether if the children paid half the fare?

- A. Sh.510
 B. Sh.600
 C. Sh.1 110
 D. Sh.960

44. Kawira travelled from Meru to Isiolo a distance of 432km in four hours. What was his average speed in m/s?

- A. 108m/s
 B. 30m/s
 C. 108km/h
 D. 30km/h

45. The figure below shows Karani's farm which is in a shape of a trapezium.



What is its area in hectares?

- A. 9600ha
 B. 96ha
 C. 9.6ha
 D. 0.96ha

The table below shows the shoes sold at bata shoe shop in one week. Use it to answer question 46.

Shoe size	4	5	7	8	9	10
Pairs sold	15	14	26	19	12	3

46. What was the modal shoe size?

- A. 6
 B. 26
 C. 10
 D. 7

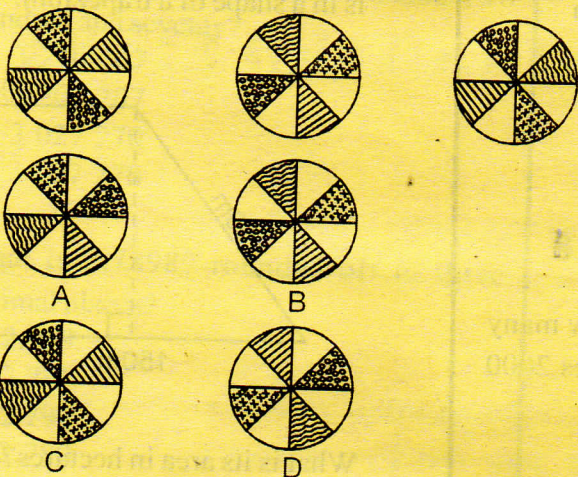
47. A meeting was attended by 300 people, out of those 0.14 were men, 0.2 were women and the rest were children. How many more children than women were there?

- A. 138
 B. 156
 C. 198
 D. 258

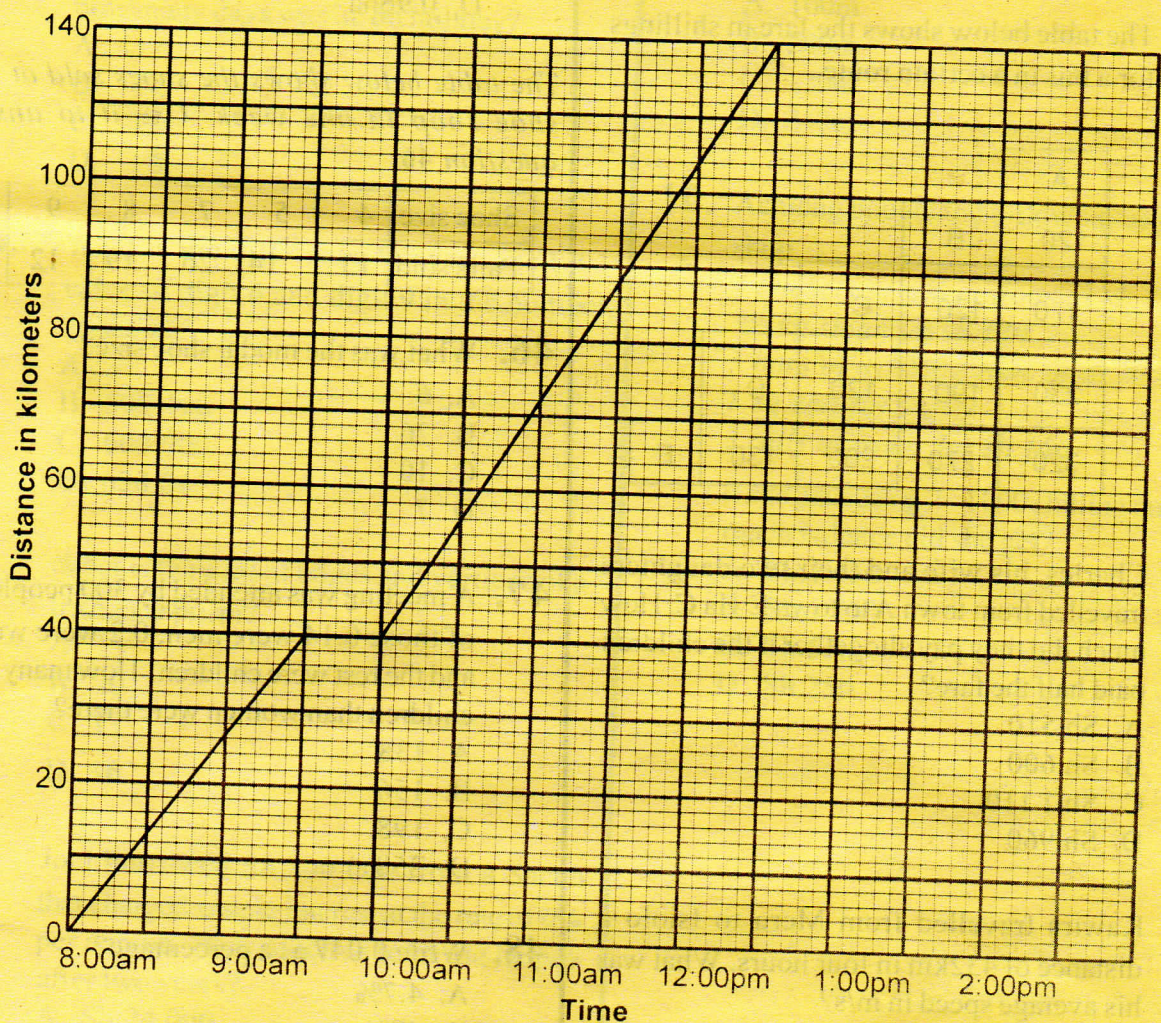
48. Write 0.047 as a percentage?

- A. 4.7%
 B. 47%
 C. 0.47%
 D. 470%

49. Which of the following is the next shape in the pattern?



50. The graph below shows the journey of Kareke from Tigania to Igembe a distance 140km. After travelling for 40km he rested and resumed the journey after 30 minutes.



What was the average speed for the second part of the journey?

- A. 20 km/h
- B. 40km/h
- C. $31\frac{1}{9}$ km/h
- D. 35km/h