

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. What is 330 399.08 in words?
- Three hundred and thirty thousand, three hundred and ninety nine and eight hundredth.
 - Three hundred and thirty three thousand three hundred and ninety nine and eight tenth.
 - Three million thirty thousand three hundred and ninety nine and eight thousandth.
 - Three hundred and thirty thousand three hundred and ninety nine and eight tenths.

2. What is the value of $3\frac{3}{5} \times \left(\frac{2}{3}\right)^2 \div 1\frac{1}{3}$?

- $\frac{1}{3}$
- $3\frac{1}{3}$
- $1\frac{1}{5}$
- 2

3. What is the value of $0.3(0.6 \div 0.2) + 1.6 \times 0.4$?

- 8.8
- 1.0
- 0.73
- 1.54

4. What is the value of $0.425 + 400.25 + 36.375$ rounded off to the nearest tenth?

- 437.05
- 437.1
- 437.10
- 438.0

5. The fractions $\frac{2}{3}$, $\frac{7}{9}$, $\frac{5}{7}$ and $\frac{11}{13}$ are to be arranged from the smallest to largest. Which is the correct order?

- $\frac{2}{3}$, $\frac{5}{9}$, $\frac{7}{9}$, $\frac{11}{13}$
- $\frac{11}{13}$, $\frac{7}{9}$, $\frac{5}{7}$, $\frac{2}{3}$
- $\frac{2}{3}$, $\frac{7}{9}$, $\frac{5}{7}$, $\frac{11}{13}$
- $\frac{5}{7}$, $\frac{7}{9}$, $\frac{2}{3}$, $\frac{11}{13}$

6. What is the simplest form of $\frac{4(3x + 4y) - 2(2y + 3x)}{2(2y + x)}$?

- | | |
|-------------------------------|--------------------------------|
| A. $\frac{6x + 12y}{4y + 2x}$ | B. $\frac{18x + 20y}{4y + 2x}$ |
| C. $\frac{9x + 10y}{2y + x}$ | D. $\frac{3x + 6y}{2y + x}$ |

7. The following statements describes a quadrilateral.

- Diagonals bisect at right angle.
- All interior angles are equal.
- Diagonals are equal
- Two pairs of parallel side.

The quadrilateral described above is

- rhombus
- rectangle
- square
- parallelogram

8. A lorry is loaded with 100 cartons of bar soap. Each carton hold 20-1kg bars of soap. Empty carton has a mass of 0.25g. The lorry also carried 30-75kg bags of rice. What is the mass of the loaded lorry in tonnes if its empty mass is 1.65tonnes?

- 4.275tonnes
- 4275tonnes
- 5.925tonnes
- 5925tonnes

9. How many days are there between 12th January to 14th April of a leap year?

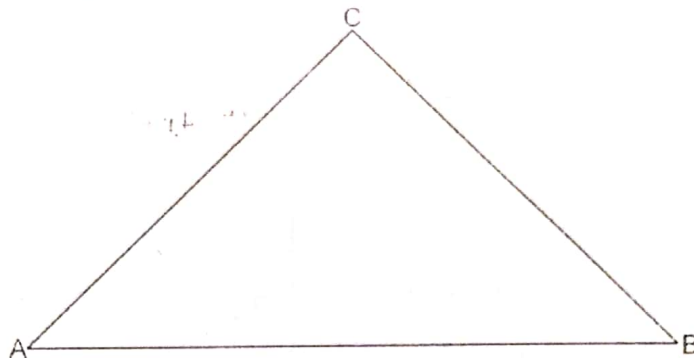
- 91
- 92
- 93
- 94

10. What is the value of x?

$$\frac{2(3x - 6)}{3} + \frac{3(2x + 4)}{2} = 12\frac{3}{4} ?$$

- $4\frac{3}{5}$
- $4\frac{11}{20}$
- $3\frac{3}{20}$
- $2\frac{3}{20}$

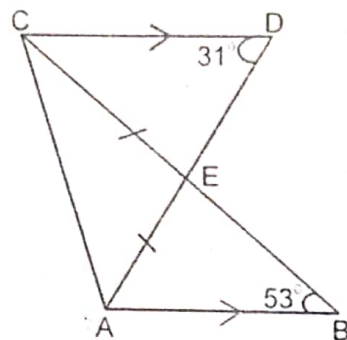
11. In the triangle ABC below construct a perpendicular from point C to meet line AB at y . Bisect angle CBA to meet the perpendicular at m .



What is the length of line BM?

- A. 5cm
B. 3.4cm
C. 4.7cm
D. 4.2cm
12. The ratio of sheep to camel in Hassan farm was 3:5 in the month of January. The number of camel was 680 more than that of sheep. In the month of February he sold 80 sheep and 180 camels. What was the new ratio of camel to sheep in February?
A. 47:76
B. 4:9
C. 76:47
D. 9:4
13. Obonyo drove at a speed of 20m/s for 4hours from Nyakach to Kisumu. He drove back to Nyakach at a speed of 96km/h. How long did the whole journey take?
A. 3hrs
B. 7hrs
C. 4hrs
D. 5hrs
14. Katana borrowed sh.120 000 from a commercial bank that charged compound interest at the rate of 5% per annum. How much money in total did he pay after 2 years?
A. Sh.132 300
B. Sh.12 000
C. Sh.132 000
D. Sh.12 300
15. The table below shows the number of crates of bread sold in a certain supermarket.
- | Day | Mon | Tue | Wed | Thur | Fri | Sat | Sun |
|---------------|-----|-----|-----|------|-----|-----|-----|
| No. of crates | 32 | 24 | 36 | 38 | 33 | 41 | 24 |
- What is the sum of the mode and median sale?
A. 33
B. 24
C. 57
D. 62
16. A rectangular plot of land measures 240m by 160m. The land is to be fenced using five strands of wire. A gate of 5m is to be left. What is the length of the wire used?
A. 4000m
B. 3975m
C. 3995m
D. 775m

17. In the figure below line **AB** is parallel to line **CD**. Lines **AE** and **CE** are equal. Angle **CDE** 31° and angle **ABE** 53° .



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

- A. 84°
 B. 96°
 C. 53°
 D. 48°
18. A salesman earns a basic salary of sh.21 000. He is also paid 3% commission on all the sales above sh.250 000. In one month he sold 12 generators at sh.60 000 each. How much money in total did he earn?
 A. Sh.35 100
 B. Sh.14 100
 C. Sh.21 600
 D. Sh.42 600
19. The number of cows in Likipei's farm is y . The number of sheep is three and a half time that of cows. The number of goat is 80 less the number of sheep. Which of the following expression shows the total number of animals?
 A. $y + 3\frac{1}{2} - 80$
 B. $4\frac{1}{2}y + 80$
 C. $y + 7y - 80$
 D. $8y + 80$
20. Which of the following is the next number in the sequence?
 1, 2, 6, 15, 31, _____
 A. 25
 B. 56
 C. 54
 D. 47

21. A rectangular water tank measures 0.75m long by 0.5m wide is full of water. After 75 litres are drawn the level of water becomes 20cm lower. What is the height of the container in centimeters?

A. 40cm
 B. 0.4cm
 C. 20cm
 D. 0.2cm

22. What is the value of $\frac{3\frac{1}{4} \times 1\frac{2}{3} \div 2\frac{1}{3}}{3\frac{1}{2} \div 1\frac{2}{5}}$?

A. $2\frac{9}{28}$
 B. $5\frac{1}{2}$
 C. $2\frac{1}{2}$
 D. $\frac{13}{14}$

23. A teacher's workshop on competence based curriculum started at 8.15am. The first session took $1\frac{3}{4}$ hrs after which the teacher went 25 minutes break. The second session took $1\frac{2}{3}$ hrs after which the workshop ended. At what time in 24 hrs system did the meeting end?

A. 11.40am
 B. 1140hrs
 C. 1205hrs
 D. 1230hrs

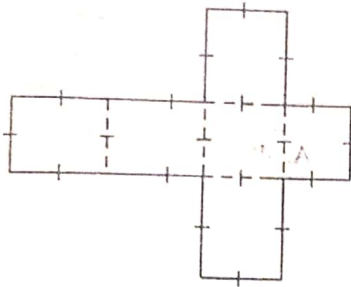
24. The table below shows how Oliech spent his salary

Transport	Fees	Food	Clothing	Rent
3000	12000	6000	9000	18000

If the information was put on a pie-chart. What angle would represent the difference between fees and clothing?

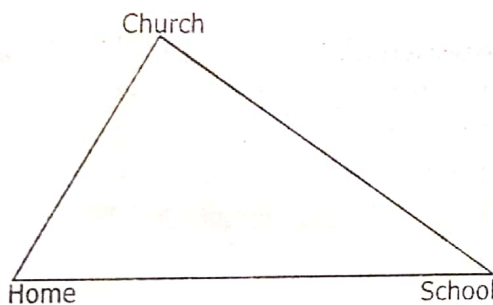
A. 45°
 B. 90°
 C. 75°
 D. 22.5°

25. The figure below shows a net of a solid.



When closed the net will form a

- A. open square prism
 - B. closed square prism
 - C. square based pyramid
 - D. cuboid
26. The figure below shows the distance from Kibet's home to school and to the church. The distance is drawn to scale 1:80000.



On Sunday Kibet went to church but later pass through the school and went back home. How many kilometres did he cover?

- A. 8.8km
 - B. 3.2km
 - C. 13.6km
 - D. 13.2km
27. On Monday $\frac{1}{4}$ of the pupils were absent. On Tuesday $\frac{1}{5}$ of the pupils were absent. If 15 more pupils were absent on Monday than on Tuesday, how many girls are in the school, if the number of boys is $\frac{2}{5}$ of the school population?
- A. 120
 - B. 300
 - C. 150
 - D. 180

28. In a farm there are x cows. The number of sheep is three times that of cows but 18 more than that of goats. The total number of animals is 345. Which of the equations below can be used to get the number of cows?

- A. $7x - 18 = 345$
- B. $7x + 18 = 345$
- C. $4x - 18 = 345$
- D. $4x + 18 = 345$

29. The marked price of a home theatre is sh.63 000. Halima was given a 8% discount on buying cash. How much less did she pay?
- A. Sh.5 040
 - B. Sh.57 960
 - C. Sh.68 040
 - D. Sh.67 040

30. A school has 240 pupils. Each pupil is given 2-200ml packets of milk per week. How many decilitres of milk do they consume in four weeks?

- A. 38.40
- B. 3840
- C. 384000
- D. 38400000

31. A shopkeeper had the following denominations in his cash box.

21 one thousand shillings notes.
15 five hundred shillings notes
31 two hundred shilling notes
15 one hundred shilling notes
24 fifty shilling notes

He decided to change all the money into two hundred shillings notes. How many notes did he get?

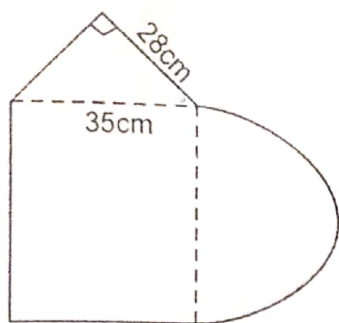
- A. Sh.37 400
- B. Sh.186
- C. Sh.36 400
- D. Sh.187

32. After selling a generator for sh.76 500 Murungi made a 15% loss. At what price should he have sold the generator to make 10% profit?

- A. Sh.99 000
- B. Sh.90 000
- C. Sh.85 800
- D. Sh.84 150

33. Construct a triangle ABC such that line $AB=BC=7.5\text{cm}$. Angle $ABC=68^\circ$. Construct a bisector of angle ABC and angle BAC and let the bisectors meet at x . What is the size of angle AXB ?
- 119°
 - 60°
 - 34°
 - 63°
34. Which of the following is the simplest form of the inequality?
- $$\frac{2}{3}(2x+4) + 6 > 10$$
- $x < 1$
 - $x = 1$
 - $x > 1$
 - $x > 2$
35. What is the value of $\frac{18(48-32)+7 \times 3-9}{2(3)+12 \div 2}$?
- 300
 - 25
 - 50
 - 30
36. What is the product of the value of LCM of 9 and 12 and the HCF of 42 and 48?
- 72
 - 6
 - 78
 - 216
37. The area of a rectangular plot of land is 12000m^2 . If the length is 150m , what is the square of the diagonal?
- 170m
 - 80m
 - 6400m
 - 28900m
38. A factory hired 48 workers to complete a certain job in 18 days. If 12 workers failed to turn up how much longer did the job take?
- 24
 - 36
 - 6
 - 12
39. Wachira bought the following items from a shop
- 3 $\frac{1}{2}\text{kg}$ sugar @120
 - 3-500ml packets of milk @ 120 per litre
 - 4-1kg bars pf soap @150
 - 1-2kg packet of maize meal @Sh. 70 per kg
 - 3 cooking oil for sh 375
- How much balance did he get if he paid using 4-500 shilling notes?
- Sh.1 715
 - Sh.285
 - Sh.1 645
 - Sh.355
40. A rectangular block of wood measures 20cm long by 16cm wide by 30cm high. A cylindrical block of wood has a diameter of 14cm and a height of 30cm . What is the difference in their volume?
- 4620cm^3
 - 4980cm^3
 - 9600cm^3
 - $14\,220\text{cm}^3$
41. A flour mills company packed 30000 bales of unga in January. In February the number of bales increased by 45%. What is the total of bales packed in two months?
- 43 500
 - 63 500
 - 13 500
 - 73 500
42. What is the value of $\frac{3x+4y+3z}{2xy+1}$ where $x=4$ $y=3$ and $z=x+y$?
- $\frac{5}{9}$
 - $1\frac{4}{5}$
 - 45
 - 25
43. Kakai deposited sh.150 000 in a bank that paid 6% simple interest. How much money was in his account after 30 months?
- Sh.22 500
 - Sh.172 500
 - Sh.9 000
 - Sh.159 000

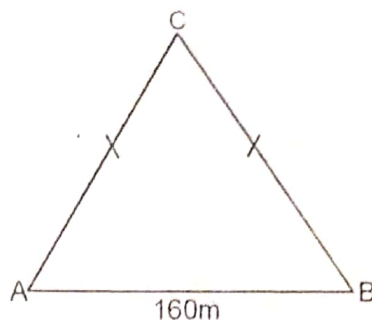
44. The figure below shows a square joined to a semi-circle and a right angled triangle.



What is the area of the figure ?

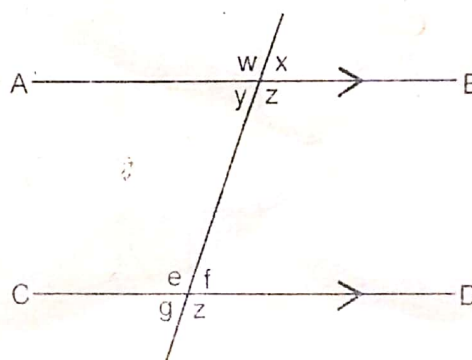
- A. 2481.50
B. 2294.25
C. 2000.25
D. 2284.25
45. Kantet shared some money to his three sons, Ntapaiya, Saruni and Muriaso. Ntapaiya got 0.36 while Saruni got 0.2 Muriaso got the rest. How much more than Saruni did Muriaso get if Ntapaiya got sh.72 000?
- A. Sh.88 000
B. Sh.48 000
C. Sh.40 000
D. Sh.20 000
- 46: The marked price of a generator is sh.64 000. The hire purchase is 20% more than the marked price. Karani paid sh.13800 and the rest in 18 equal monthly instalments. How much was each instalment?
- A. Sh.76 800
B. Sh.3 600
C. Sh.6 400
D. Sh.3 500
47. A prayer rally was attended by three thousand four hundred and twenty men. The number of girls was thrice that of women who were two hundred more than men. The number of boys was 800 less than that of girls. How many people attended the prayer rally?
- A. 17 900
B. 24 240
C. 10 860
D. 27 960

48. The figure below shows isosceles triangle ABC. The perimeter is 500m.



What is its area in hectares?

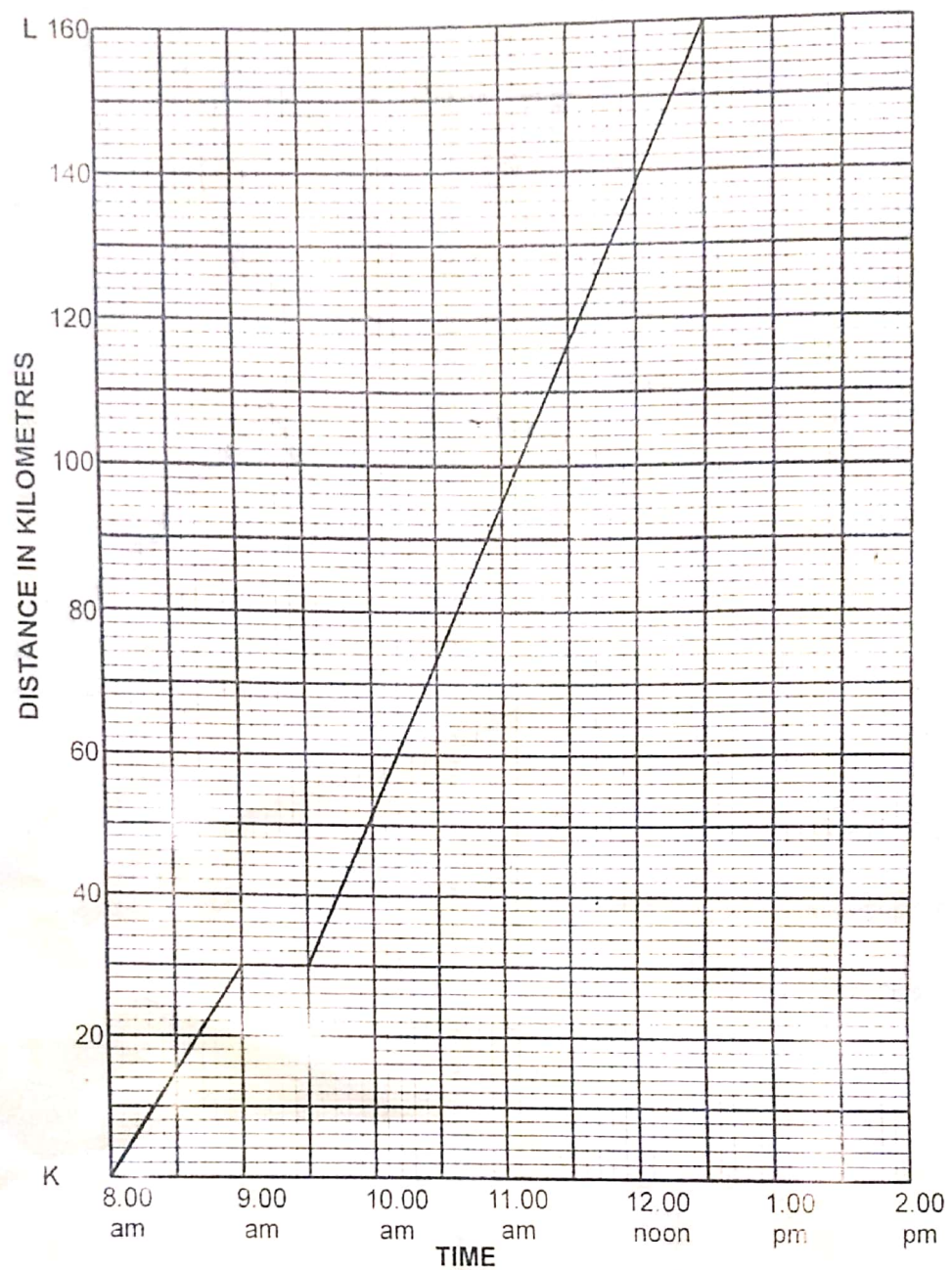
- A. 12000ha
B. 1200ha
C. 1.2
D. 0.12
49. In the figure below line AB is parallel to line CD. Line EF is a transversal.



Which of the following statements is **CORRECT**?

- A. Angle w equals angle e ; alternating angles.
B. Angle y plus angle $e = 180^\circ$; co-interior angles.
C. Angle e equals angle z , corresponding angles.
D. Angle g is equal to angle e ; angles of a straight line.

50. The graph below shows the journey by Kamren from K to L.



How far away from town L was he at 10.30am?

- A. 74km
- B. 86km
- C. 130km
- D. 76km