

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 is ten million ten thousand and ten?
- A. 10 010 100
 - B. 10 010 010
 - C. 10 100 010
 - D. 10 001 010

2. What is the 299.995 rounded off to the nearest two decimal places?
- A. 299.99
 - B. 299.98
 - C. 300.00
 - D. 300

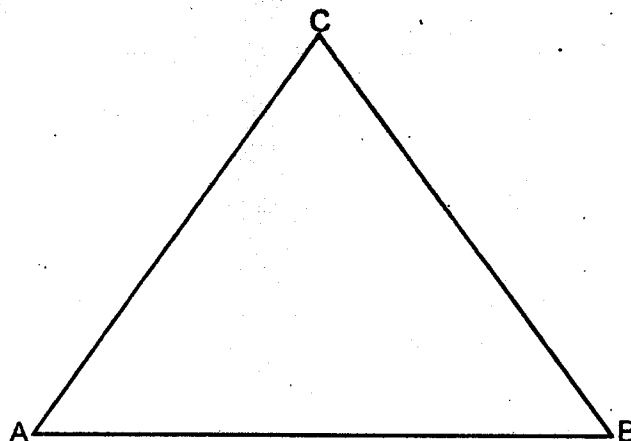
3. How many days are there between 5th February and 4th April of a leap year?
- A. 58
 - B. 59
 - C. 60
 - D. 61

4. What is the place value of digit 9 in sum of 428 657 and 368 725?
- A. Hundred of thousand
 - B. Thousand
 - C. Ten of thousand
 - D. Millions

5. What is the value of $\frac{6^2 + 4^2 + 3(2+4)}{2 \times 7}$?
- A. 14
 - B. 70
 - C. 7
 - D. 5

6. Chebet bought the following items from a shop
- 2 - 2 litre bottles of cooking oil @ 120 per litre
 - 3kg sugar @ sh.105
 - 4½kg rice @ sh. 80
 - 5 rolls of tissues for sh. 100
- If she paid using 2 - 1000 shilling note, how much balance did she get?
- A. Sh.1 255
 - B. Sh.1 655
 - C. Sh.745
 - D. Sh.345

7. The triangle **ABC** below is drawn to scale.



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

- A. 55°
- B. 72°
- C. 108°
- D. 125°

8. What is the sum of the square of $1\frac{1}{2}$ and the square root of $2\frac{1}{4}$?

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

9. What is the next number in the sequence? 1, 4, 9, 16, _____

- A. 36
- B. 24
- C. 25
- D. 27

10. What is the simplified form of $3(2x + 3y) + 2(4x + 5y)$

- A. $14x + 19y$
- B. $12x + 8y$
- C. $19x + 14y$
- D. $16x + 19y$

11. The table below shows arrival and departure timetable for the train from towns **A**, **B**, **C** and **D**.

Town	Arrival	Departure
A	_____	7.30am
B	9.15am	9.30am
C	11.25am	11.35am
D	1.25pm	_____

How long did it take the train to travel from town **B** to town **D**?

- A. 4hrs 5 min
- B. 3hrs 5min
- C. 4hrs 55min
- D. 3hrs 55min

12. The area of a square plot of land was 625m^2 . What was twice its perimeter?

- A. 100m
- B. 25m
- C. 200m
- D. 50m

13. Construct a triangle **ABC** such that line **AB**=4cm, **BC**=5cm and angle **BAC** = 90° . Draw a circle touching the points **ABC**.

What is the radius of the circle?

- A. 10cm
- B. 5cm
- C. 4cm
- D. 6cm

14. What is the value of

$$1\frac{2}{5} \div 1\frac{1}{5} + 2\frac{1}{2} \text{ of } \frac{1}{3}?$$

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

15. Salat bought a generator for sh.20 400 after getting a 15% discount. What was the marked price of the generator?

- A. Sh.3 060
- B. Sh.23 460
- C. Sh.17 340
- D. Sh.24 000

16. Three streetlights light at an interval of 6min, 8min and 12min. If they all started at 8.00am. At what time did they light again?
- A. 8.36am
B. 9.00am
C. 8.48am
D. 8.24am

17. A cylindrical container with a radius of 28cm contain water to a height of 50cm. How many litres of water does it hold?
- A. 123.2l
B. 1232l
C. 1232l
D. 123200l

18. The fractions $\frac{2}{3}$, $\frac{3}{4}$, $\frac{3}{8}$ and $\frac{2}{5}$ are to be arranged in order from the smallest to the largest. What is the correct order?

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

19. Which of the following characteristics of quadrilaterals is both for rhombus and square?
- A. Has one pair of parallel lines
B. Diagonals are equal
C. All the angles are right angle.
D. Diagonal bisect at right angle.

20. The table below shows the number of pupils who joined class eight in Kahutha location.

Year	2016	2017	2018	2019	2020
No. of pupils	386	425	369	438	398

Which two consecutive years was the number highest?

- A. 2019 and 2020
B. 2017 and 2018
C. 2017 and 2019
D. 2016 and 2018

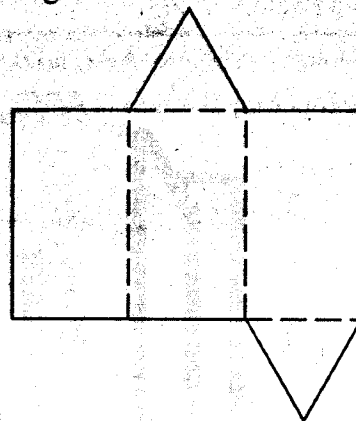
21. What is 74296 divided by 37?
- A. 2008
B. 208
C. 28
D. 280

22. What is the value of x in the equation

$$\frac{3}{5}(10x + 15) - 10 = 20 ?$$

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

23. The diagram below shows a net of a solid.



When folded which solid will be formed

- A. Triangular pyramid
B. Triangular prism
C. Square pyramid
D. Square prism

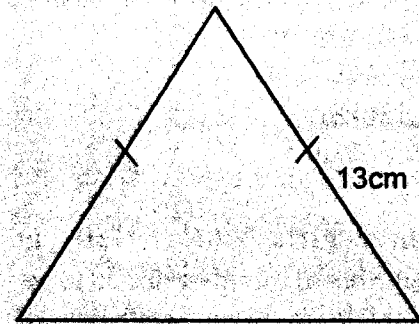
24. A company hired 18 men to do a job in 24 days. How long did it take if 6 men did not turn up?
- A. 18 days
B. 24 days
C. 36 days
D. 48 days

25. Which of the following sets of measurements will form a right angled triangle?

- A. 5cm, 7cm, 9cm
B. 8cm, 15cm, 19cm
C. 5cm, 12cm, 13cm
D. 10cm, 12cm, 15cm

26. The mass of an empty pick up is 0.9 tonnes. The pick up was loaded with 20 bales of maize flour each with 12-2kg packed. It is also loaded with 20-50kg bags of rice. What is the mass of the loaded pickup in kg?
- A. 1480kg
B. 1380kg
C. 1480.9kg
D. 2380kg
27. Ochieng bought a cow at sh.24 000. He later sold it making 18% profit. What was the selling price?
- A. Sh.4 320
B. Sh.27 320
C. Sh.28 320
D. Sh.26 480
28. Jamal deposited sh.120 000 in a commercial bank that charged simple interest at the rate of 8 percent per annum. How much interest did the money earn after two years?
- A. Sh.139 200
B. Sh.19 200
C. Sh.9 600
D. Sh.129 600
29. A public rally was attended by 380 men. The number of women was thrice that of men but half that of children. How many people attended the rally?
- A. 1 140
B. 3 800
C. 1 520
D. 3 420
30. The marked price of a TV is sh.24 000. The hire purchase price is 25% more than the marked price. Wambua bought it on hire purchase paying a deposit of sh.12 000 and the rest in 12 equal monthly instalment. How much is each instalment?
- A. Sh.1 500
B. Sh.2 000
C. Sh.2 500
D. Sh.1 800

31. The diagram below shows an isosceles triangle.



If the perimeter is 36cm what is the area of the triangle?

- A. 120cm^2
B. 130cm^2
C. 60cm^2
D. 65cm^2
32. Parsaloi read $\frac{2}{5}$ of a book on Monday and $\frac{1}{7}$ on Tuesday and the rest on Wednesday. What fraction of the book did he read on Wednesday?
- A. $\frac{16}{35}$
B. $\frac{8}{35}$
C. $\frac{19}{35}$
D. $\frac{17}{35}$
33. What is the value of $\frac{0.72 + 0.6 \div 0.12}{0.2}$?
- A. 0.572
B. 5.72
C. 0.286
D. 28.6
34. A saleslady earn a basic salary of sh.15 000. She is also paid 5% commission on all the sales she makes in a month. How much money did she earn in a month she sold good worth sh. 250 000?
- A. Sh.27 500
B. Sh.12 500
C. Sh.15 000
D. Sh.20 000

35. A road in a map is drawn to scale 1: 500 000. What is the actual length of the road which is drawn to scale of 6cm?
 A. 0.3km
 B. 3km
 C. 30km
 D. 300km
36. Three girls Nancy, Nelly and Nimo contributed a total of sh.325 to buy a gift for their friends. Nancy contributed sh.30 more than Nelly. Nimo contributed sh.25 more than Nancy. If Nancy contributed sh. m , which of the following equation will be used to find the amount Nancy contributed?
 A. $3m + 55 = 325$
 B. $3m - 5 = 325$
 C. $3m - 25 = 325$
 D. $3m + 30 = 325$
37. In a school there were 840 pupils last year. This year the number increased by 25%. What is the new population?
 A. 210
 B. 1150
 C. 950
 D. 1050
38. The length of a rectangular plot is 240m and the width 160m. What is the area of the plot in hectares?
 A. 38 400
 B. 3 840
 C. 38.4
 D. 3.84
39. The mean age of seven pupils is 12. If the age of the first 6 is 8, 10, 11, 18, 16, 8, what is the age of the seventh pupil?
 A. 12
 B. 13
 C. 16
 D. 10
40. A motorist covered a distance of 144km in two hours. What was his speed in m/s?
 A. 20m/s
 B. 40m/s
 C. 25m/s
 D. 30m/s
41. What is the surface area of an open tank of diameter 1.4m and a height of 1.2m in m^2 ?
 A. $5.28m^2$
 B. $3.08m^2$
 C. $6.82m^2$
 D. $8.36m^2$
42. A watch loses 30 second every hour. If it was set right on Monday 8.30am, at what time did it shows on Tuesday 8.30am?
 A. 8.18am
 B. 8.24am
 C. 8.42am
 D. 8.36am
43. The ratio of boys to girls in a school is 3:4 if there are 120 less boys than girls, how many pupils are there in that school?
 A. 360
 B. 480
 C. 840
 D. 660
44. A rectangular tank measures 0.5m by 0.6m by 0.8m. How many litres of water does it hold when half full?
 A. 0.24
 B. 0.12
 C. 120
 D. 240

45. The table below shows how Wangira scored in an exam.

Subject	Math	Eng	Kis	Sci	SST
Score out of 50	39	30	36	42	33

If this information was put on a pie chart, what angle would represent Maths?

- A. 96°
 B. 78°
 C. 84
 D. 60°

46. The table below shows the charges of sending money order.

Value of order	Commission
Upto 1000	54
1001 - 2500	86
2501 - 5000	124
5001 - 10000	182
10001 - 20000	246

Mugambi sent two money orders one worth sh.12 000 and the other worth sh. 7 500. How much money did he pay at the post office?

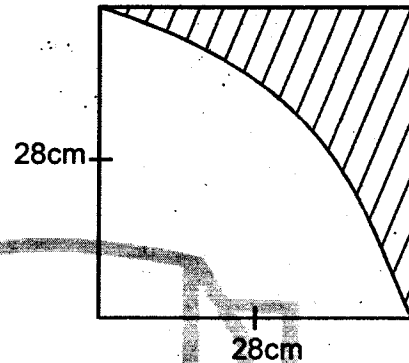
- A. Sh.428
 B. Sh.19 928
 C. Sh.438
 D. Sh.20 350

47. What is the value of $\frac{2ab - b}{3b}$

if $a = 2$ and $b = 6$?

- A. 1
 B. 24
 C. 18
 D. 12

48. The figure below shows a quarter a circle cut out of square.



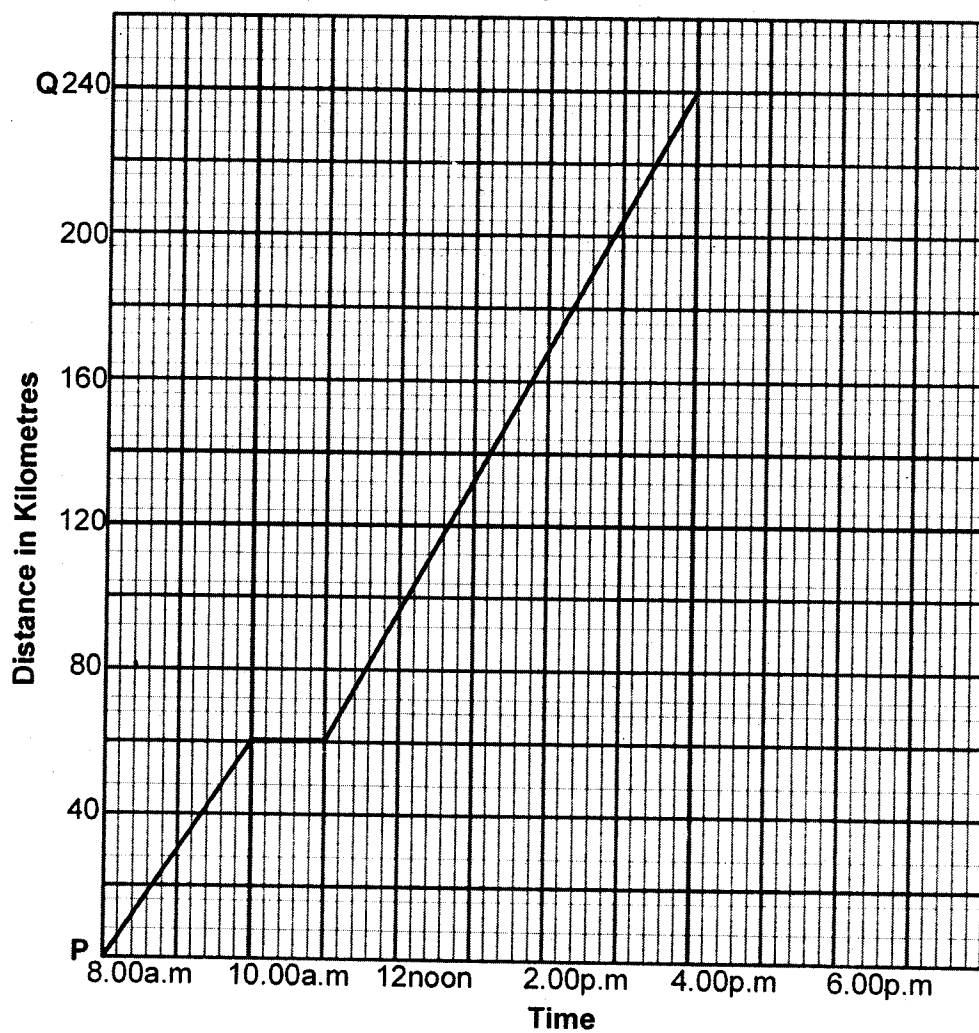
What is the area of the shaded part?

- A. 616cm^2
 B. 784cm^2
 C. 168cm^2
 D. 154cm^2

49. What is 65% as a ratio in its simplest form?

- A. 26:50
 B. 13:20
 C. 65:100
 D. 13:100

50. The graph below shows the journey taken by Ouma from town P to town Q. After covering 60km he rested for one hour then resumed the journey.



What was his speed after he rest?

- A. 248km/h
- B. 48km/h
- C. 36km/h
- D. 60km/h