

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

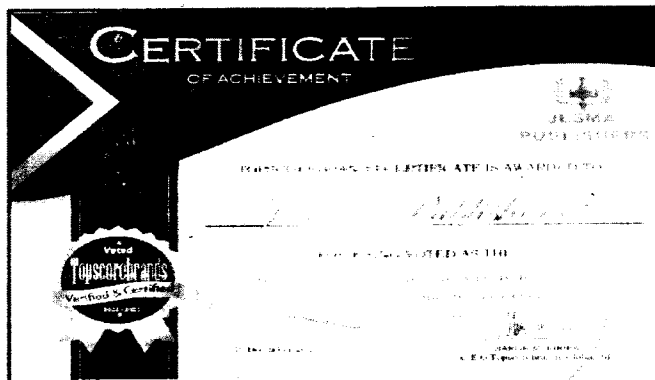
In the Question Booklet:

14. What is 899.998 rounded off to 2 decimal places?

- A. 899.99
 B. 900.00
 C. 899.90
 D. 999.00

The correct answer is (B)

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 thirteen million thirteen thousand and thirteen in figures?

- A. 13 013 013
- B. 13 013 130
- C. 13 130 013
- D. 13 103 013

2. Round off 201.78965 to the nearest thousandth?

- A. 20.7896
- B. 201.7895
- C. 201.789
- D. 201.790

3. How many thousands are in the total value of digit 4 in the number 34 693 201?

- A. 4 000 000
- B. 400 000
- C. 40 000
- D. 4 000

4. Work out;

$$144 \div 12 + 13 \times 10 - 124 \div 66$$

- A. 128
- B. 208
- C. 84
- D. 130

5. Three bells ring at an interval of 30sec, 60sec, and 80sec respectively. If they rang together at 10:20am, when will they ring together again?

- A. 12:20pm
- B. 10:24pm
- C. 12:20am
- D. 10:24am

6. The marked price of a sewing machine is sh. 44 000. Joel bought it and was given a discount of 16%. How much money was he given as a discount?

- A. Sh.36 960
- B. Sh.16 000
- C. Sh.7 040
- D. Sh.3 200

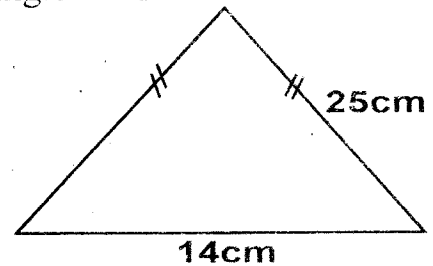
7. The figure below shows a pipe.



Calculate its surface area in cm^2 ($\pi = 3.14$)

- A. 251 200 cm^2
- B. 2 512 cm^2
- C. 5 024 cm^2
- D. 50 240 cm^2

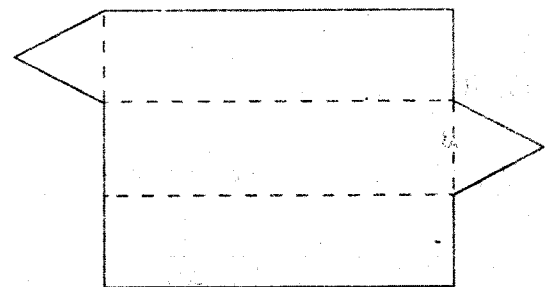
8. The figure below shows an isosceles triangle ABC.



Calculate its area.

- A. 336 cm^2
- B. 600 cm^2
- C. 168 cm^2
- D. 350 cm^2

9. The figure below shows a net of triangular prism.

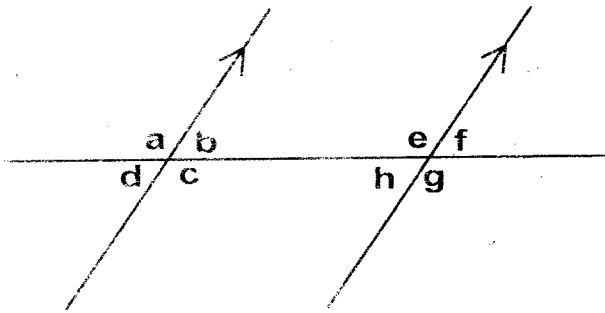


What is the product of edges, faces and vertices?

- A. 270
- B. 20
- C. 24
- D. 60

10. Find half the value of $x(yz - xy)$ if $x = 7$, $y = 8$ and $z = 10$
- A. 84
B. 168
C. 98
D. 144

11. Which of the following statements is true about the figure below?



- A. Angle $b =$ angle e co-interior angles
B. Angle $c =$ angle g corresponding angle.
C. Angle $h =$ angle f alternate angle.
D. Angle $g =$ angle b vertically opposite angles.
12. Linet shared his 120 hectare piece of land between his two daughters in the ratio 5:7. How many more hectares did the elder sister get than younger one if the elder sister got the majority?
- A. 20
B. 50
C. 70
D. 40

13. Which is the next number in the

sequence $\frac{1}{4}, \frac{1}{9}, \frac{1}{25}, \frac{1}{49}$?

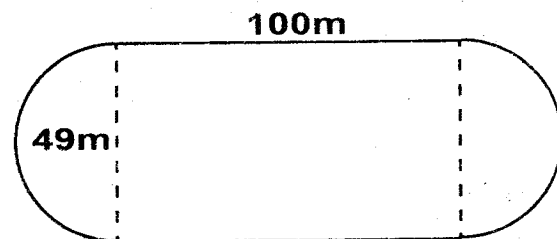
- A. $\frac{1}{121}$
B. $\frac{1}{81}$
C. $\frac{1}{144}$
D. $\frac{1}{169}$

14. Construct a triangle ABC such that $AB = 6\text{cm}$, angle $CAB = 80^\circ$ and angle $ABC = 50^\circ$. What is the measure of angle BCA ?
- A. 60°
B. 40°
C. 100°
D. 50°

15. Bahati borrowed sh. 500 000 from a bank that charged simple interest. After two years he paid 550 000. What was the rate at which the interest was charged?
- A. 5%
B. 10%
C. 20%
D. 15%

16. A line 4cm on the map whose scale is 1:400 000. What is the real length in kilometres?
- A. 9km
B. 8km
C. 16km
D. 12km

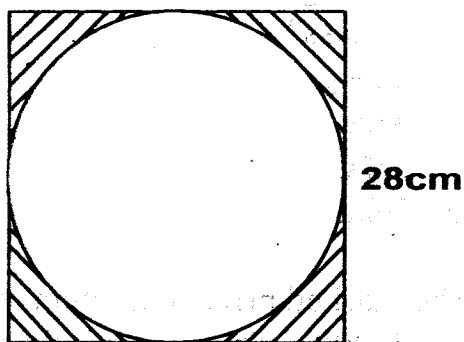
17. The figure below shows a track. John ran round the track twice.



How many metres did he cover?

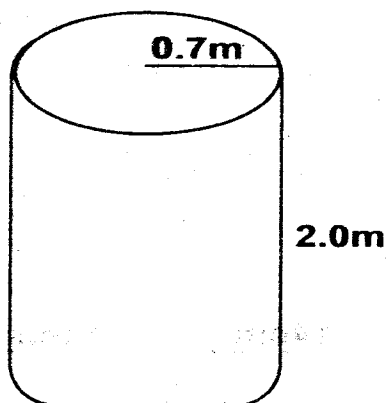
- A. 154m
B. 200m
C. 708m
D. 354m

18. The figure below shows a circle cut out of a square.



- What is the area of the shaded part?
- A. 168cm^2
 B. 86cm^2
 C. 84cm^2
 D. 616cm^2
19. The cost of 2 geometrical sets and 6 books is sh.800. If the cost of one book is sh.90, what is the cost of 6 geometrical sets and 8 books?
- A. Sh.1 300
 B. Sh.1 500
 C. Sh.1 250
 D. Sh.1 400

20. Calculate the surface area of the closed cylinder shown below.



- A. 3.08m^2
 B. 8.8m^2
 C. 10.34m^2
 D. 11.88m^2

21. Find the value of y in the equation

$$3(2y + 4) + 3 - 4y = 35$$

- A. 10
 B. 20
 C. 15
 D. 6

22. Joseph bought the following items.

2kg of rice for sh.200

$3\frac{1}{2}$ kg of sugar @ sh.100 per kg

$1\frac{1}{4}$ kg of meat @ sh.200 per kg

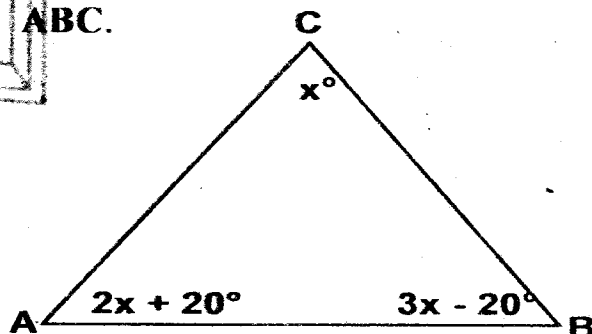
4 loaves of bread @ sh.50

2kg of salt for sh.100

He paid for the items using 6 -200 shilling notes. How much balance did he receive?

- A. Sh.1 000
 B. Sh.1 200
 C. Sh.100
 D. Sh.1 100

23. The figure below shows a triangle ABC.



What is the difference between the largest angle than the smallest angle?

- A. 50
 B. 70
 C. 80
 D. 30
24. A car dealer received sh. 3 400 as commission. If this was 2% of the value of the car sale. How much money did the car owner receive?
- A. Sh.170 000
 B. Sh.166 000
 C. Sh.123 200
 D. Sh.184 600

25. A rectangle has a length of 150m and diagonal of 170m. What is the area of the rectangle in hectares?

- A. 1.2 ha
- B. 12 ha
- C. 1 200 ha
- D. 12 000 ha

26. The figure below shows the fare table from town A to town E.

A				
100				
150	B			
200	120	C		
250	180	160	D	
200	180	140	E	

David, his wife and his two children travelled from town A to town E via town C. How much did he pay for the children if the children paid half the fare?

- A. Sh.660
- B. Sh.990
- C. Sh.540
- D. Sh.1 080

27. Work out: $\sqrt{0.0169 + (2.1)^2}$

- A. 4.54
- B. 0.13
- C. 2.23
- D. 0.454

28. Mathai bought 5 trays of eggs at Sh.200 per tray. He spent sh.100 for transport, 20 eggs broke and sold the remaining eggs at sh.10 each. How much profit did he make?

- A. Sh.100
- B. Sh.200
- C. Sh.300
- D. Sh.1 300

29. The mass of 5 girls is 35kg, 48kg, 50kg, 42kg and 45kg. What is their mean mass?

- A. 220kg
- B. 44kg
- C. 55kg
- D. 50kg

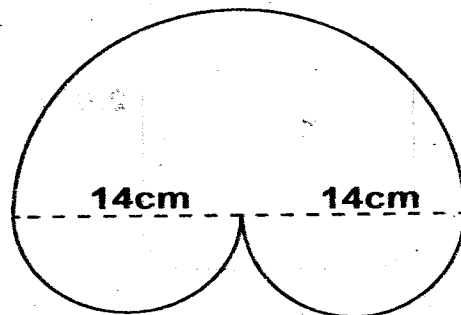
30. The marked price of an item is sh.15 000. The hire purchase price includes a deposit of sh.5 000 and 10 equal monthly instalment of sh.1 300. How much more is the hire purchase more than the marked price?

- A. Sh. 3 000
- B. Sh. 13 000
- C. Sh. 18 000
- D. Sh. 2 000

31. It takes 12 men to do a job in 36 days. How many days would it take 24 men?

- A. 18 days
- B. 24 days
- C. 9 days
- D. 27 days

32. The figure below shows a big semi circle joined to two small semi circles.



What is twice its perimeter?

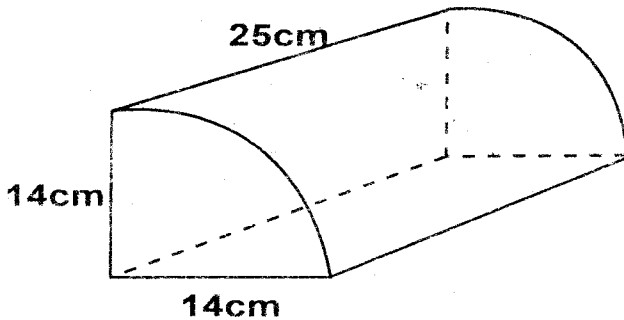
- A. 88cm
- B. 176cm
- C. 44cm
- D. 154cm

33. What is the value of

$$\left(\frac{1}{4} + \frac{1}{10}\right) \text{ of } \frac{2}{5} \div \frac{1}{5} - \frac{2}{3} ?$$

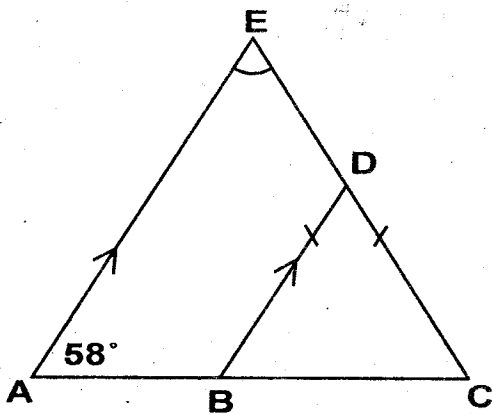
- A. $\frac{4}{15}$ B. $1\frac{4}{15}$
 C. $\frac{1}{20}$ D. $\frac{1}{30}$

34. The figure below shows quarter a cylindrical block.



- A. $1\ 925\text{cm}^3$
 B. $3\ 850\text{cm}^3$
 C. $7\ 700\text{cm}^3$
 D. $5\ 775\text{cm}^3$

35. In the figure below line **AE** is parallel to line **BD**. Angle **BAE** = 58° , line **BD** = **DC**.



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

- A. 58°
 B. 62°
 C. 64°
 D. 76°

36. Which of the following types of triangle has none of its sides equal to another?

- A. Equilateral triangle.
 B. Isosceles triangle.
 C. Scalene triangle.
 D. Right angled triangle.

37. A lorry weighs 7.2 tonnes when empty? It weighs 12 600 when loaded with some 90kg bags of beans. How many bags were loaded in the lorry?

- A. 140
 B. 80
 C. 60
 D. 20

38. The table below shows the time taken by a certain bus from town **A** to town **E**.

Town	Arrival	Departure
A		1:00pm
B	2:10pm	2:30pm
C	3:40pm	3:50pm
D	4:50pm	5:10pm
E	6:40pm	

How long will the bus take from town **B** to town **D**?

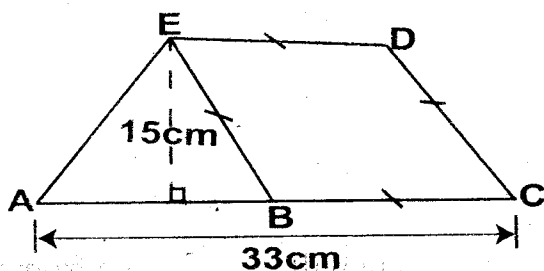
- A. 2hrs 20min
 B. 3hrs 20min
 C. 1hr 40min
 D. 2hrs 40min

39. Construct a triangle **PQR** in which **PQ = 7cm**. Angle **QPR = 70°** and angle **RQP = 40°**. Measure line **PR**.
- A. 5cm
B. 7cm
C. 8cm
D. 4.8cm

40. A wheel of 14cm diameter made 2 000 revolutions. How many metres did it cover?
- A. 88 000m
B. 8 800m
C. 880m
D. 88m

41. In a birthday party, there were twice as many girls as boys. The number of men was half the number of boys and girls. If 360 people attended the party, how many men were there?
- A. 160
B. 80
C. 240
D. 120

42. The figure below shows a rhombus joined to a triangle.



If the area of the triangle is 120cm^2 , what is the perimeter of the rhombus **BCDE**?

- A. 17cm
B. 34cm
C. 52cm
D. 68cm

43. Simplify the inequality;

$$3x + 9 > 30$$

- A. $x < 7$
B. $x > 9$
C. $x > 7$
D. $x < 9$

44. Convert 0.07 into percentage.

- A. 0.007%
B. 0.7%
C. 7%
D. 70%

45. What is the squareroot of

$$\sqrt{256} ?$$

- A. 4
B. 16
C. 196
D. 8

46. Stephen sold a cow for sh. 27 000 making a 10% loss. What was the buying price?

- A. Sh. 24 300
B. Sh. 24 000
C. Sh. 33 000
D. Sh. 30 000

47. What is the sum of the compliment of 55° and the supplement of 85° ?

- A. 140°
B. 130°
C. 160°
D. 95°

48. The table below shows the number of sodas sold in a shop in one day.

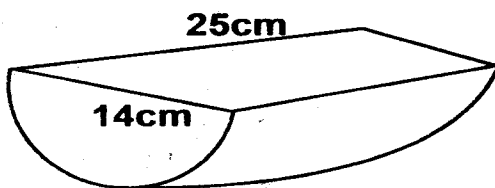
Brand	Number sold
Fanta	60
Krest	30
Coke	40
Sprite	30
Stoney	20

If the information was placed on a pie chart, what angle would represent coke?

- A. 80°
 B. 60°
 C. 40°
 D. 120°
49. The fractions $\frac{2}{3}$, $\frac{3}{4}$, $\frac{3}{7}$ and $\frac{2}{5}$ have been arranged in order from the smallest to the largest. Which is the correct order?

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

50. What is the volume of the figure below?



- A. $1\,540\text{cm}^3$
 B. $3\,850\text{cm}^3$
 C. 770cm^3
 D. $1\,925\text{cm}^3$