THE KENYA NATIONAL EXAMINATIONS COUNCIL

KPSEA 2024

MATHEMATICS

603

Oct. 2024 - 1 hour 20 minutes

INSTRUCTIONS TO CANDIDATES (Please read these instructions carefully)

1. You have been given this question paper and a separate answer sheet. The question paper contains 30 questions. Answer **ALL** the questions.
2. Do any necessary rough work in this question paper.
3. When you have chosen your answer, mark it on the **ANSWER SHEET**, not in this question paper.

HOW TO USE THE ANSWER SHEET

4. Keep the answer sheet clean and do not fold it.
5. Use an ordinary pencil.
6. Confirm that the answer sheet that you have been provided with has the following:

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YOUR ASSESSMENT NUMBER
YOUR NAME
NAME OF YOUR SCHOOL
NAME OF SUBJECT

7. For each of the questions 1 – 30, four choices are given. The choices are lettered A, B, C and D. In each case, only **ONE** of the four choices is correct. Choose the correct answer from the choices.
8. Do not make any marks outside the boxes. **Be sure of your answer before marking the box.**
9. 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

In the Question paper:

11. Work out 9 + 2 × 18 - 2?

A. 196
B. 176
C. 43
D. 27

The correct answer is C.

On the Answer Sheet:

In the set of boxes numbered 11, draw a **dark line** inside the box with the letter C printed in it as indicated below.

11. [A] [B] ~~[C]~~ [D]

10. Your dark line **MUST** be inside the box.
11. For each question, **ONLY ONE** box is to be marked in each set of four boxes.

This question paper consists of 11 printed pages

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Working Space

1. Jackson read the following number on a chalkboard.

76859

What is the number in words?

A. Seventy six thousand eight hundred and ninety five
B. Seventy six thousand eight hundred and fifty nine
C. Seventy six thousand five hundred and eighty nine
D. Seventy six thousand nine hundred and eighty five

2. A bakery sold 4297653 loaves of bread in a year.
What is the total value of digit 7 in the number?

A. Seven hundred thousand
B. Seventy thousand
C. Seven thousand
D. Seven hundred

3. A teacher wrote square root numbers on a chalkboard which formed a pattern as shown.

$\sqrt{121}, \sqrt{144}, \sqrt{169}, \sqrt{196}$

What is the next square root number in the pattern?

A. $\sqrt{100}$
B. $\sqrt{225}$
C. $\sqrt{256}$
D. $\sqrt{289}$

Working Space

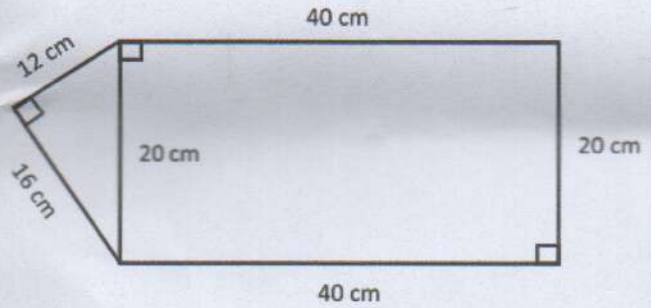
4. A lorry stopped on a weighing scale. The reading on the weighing scale was 8501.
What is the number rounded off to the nearest thousands?

A. 7000
B. 8000
C. 8500
D. 9000

5. There were 52 classrooms in a school. Each classroom had 36 learners.
How many learners were in the school?

A. 1792
B. 1862
C. 1872
D. 1922

6. A shoemaker joined two pieces of leather as shown.



What is the area of the combined pieces of leather?

A. 992 cm^2
B. 896 cm^2
C. 800 cm^2
D. 96 cm^2

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7. During a race, the recorded times for three runners were 9.587 seconds, 9.558 seconds and 9.578 seconds.
Arrange the decimal numbers in a descending order.

A. 9.587, 9.578, 9.558
B. 9.578, 9.558, 9.587
C. 9.558, 9.587, 9.578
D. 9.558, 9.578, 9.587

8. A women group had 1055 goats in a ranch. They shared the goats equally among 24 members.
How many goats remained after sharing?

A. 3
B. 23
C. 43
D. 48

9. A tailor had a piece of cloth measuring 17 m 50 cm. He cut the cloth into 5 equal pieces to make trousers.
What was the length of each piece in centimetres?

A. 8750
B. 3500
C. 350
D. 305

10. Ali and Baraza shared a loaf of bread. Ali ate $\frac{2}{5}$ while Baraza ate $\frac{1}{4}$ of the bread.
What fraction of the bread remained?

A. $\frac{2}{20}$

B. $\frac{3}{20}$

C. $\frac{7}{20}$

D. $\frac{13}{20}$

Working Space

Working Space

11. Sheila had 0.2 kg of tea leaves in the cupboard. She used 0.06 kg of the tea leaves to make tea. She calculated the fraction of the tea leaves used as follows:

$$\frac{0.06\text{ kg}}{0.2\text{ kg}} = 0.3$$

What is the answer as a percentage?

A. 3
B. 30
C. 300
D. 3000

12. A salesman travelled $\frac{2}{5}$ of his journey by rail, $\frac{1}{3}$ of the journey by matatu and $\frac{4}{15}$ of the journey on foot.

What fraction of the journey was travelled by rail and matatu?

A. $\frac{2}{15}$

B. $\frac{9}{15}$

C. $\frac{10}{15}$

D. $\frac{11}{15}$

13. A jeweller measured the diameter of a wedding ring and found it to be 20 millimetres.
What is the diameter of the ring in centimetres?

A. 2
B. 0.2
C. 0.02
D. 200

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Working Space

14. A cuboid of length 30 cm, width 15 cm and height 40 cm is full of a liquid detergent.
How many litres of detergent are in the container?

A. 18000
B. 1800
C. 180
D. 18

15. A cement factory had 8 tonnes of cement. They packed the cement in 50 kilogram bags.
How many bags of cement were packed?

A. 16000
B. 1600
C. 160
D. 16

16. Rukia bought a dress for sh 700 from a supermarket. She gave the cashier a sh 1000 note. She received the balance in several notes of sh 50 each.
How many sh 50 notes did she receive as balance?

A. 6
B. 14
C. 20
D. 300

17. A cooperative society imported 4 tonnes 500 kilograms of fertilizer. It distributed 2 tonnes 900 kilograms to farmers.
How many kilograms of fertilizer remained?

A. 1600
B. 2400
C. 2600
D. 7400

Working Space

18. A group of learners spent sh 6 450 to cultivate cabbages. They sold all the cabbages for sh 9 380.
How much profit did they make?

A. sh 15 830
B. sh 3 930
C. sh 3 130
D. sh 2 930

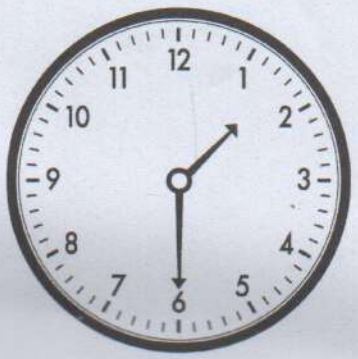
19. The table shows the travel timetable for a bus company from Mombasa to Nairobi.

Town	Arrival	Departure
Mombasa	—	8.30 a.m
Voi	10.30 a.m	11.00 a.m
Mtito Andei	2.00 p.m	2.45 p.m
Nairobi	6.30 p.m	—

How long does the journey by bus take from Mtito Andei to Nairobi?

A. 2 hours 45 minutes
B. 3 hours 45 minutes
C. 4 hours 45 minutes
D. 6 hours 30 minutes

20. John feeds his rabbits at daytime by the time shown on the clock face.



What is the time in a 24 hour system?

A. 1230 h
B. 0130 h
C. 0230 h
D. 1330 h

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21. Timothy drew some angles. He compared the angles using a right angle cut out. He noted that some angles were greater than a right angle but less than an angle on a straight line.
What is the name given to such angles?

A. Straight angles
B. Reflex angles
C. Obtuse angles
D. Acute angles

22. A self help youth group collected the following amount of garbage for recycling.

2 tonnes 200 kilograms of plastic waste
3 tonnes 400 kilograms of scrap metal
4 tonnes 350 kilograms of organic waste

How many tonnes and kilograms of garbage did the group collect altogether?

A. 9 tonnes 950 kilograms
B. 7 tonnes 750 kilograms
C. 6 tonnes 550 kilograms
D. 5 tonnes 600 kilograms

23. A welder had a metal bar of length 93 cm 3 mm. He cut 85 cm 6 mm of the metal bar to make a window frame.
What length of the metal bar remained?

A. 178 cm 9 mm
B. 17 cm 7 mm
C. 8 cm 7 mm
D. 7 cm 7 mm

Working Space

Working Space

24. Loise and her daughter Beatrice fetched a total of 16 jerrycans of water from a river. Loise fetched 4 more jerrycans of water than Beatrice. Let the number of jerrycans that Beatrice fetched be represented by x. Which of the following equations correctly represents the information?

A. $x + x - 4 = 16$
B. $x + x + 4 = 16$
C. $x - 4 = 16$
D. $x + 4 = 16$

25. Jane picked an empty packet of milk in the school compound during a cleaning exercise. She observed that the packet had 4 faces and was in the shape of a pyramid. How many edges did the packet have?

A. 4
B. 5
C. 6
D. 8

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26. Abdul drew an isoscelles triangle. Which of the following statements is a correct property of the triangle he drew?

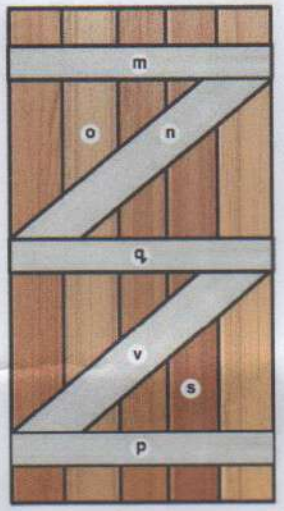
A. It had 4 sides and 4 angles
B. Two sides were parallel
C. Two angles were equal
D. All the sides were equal

Working Space

27. A tourist company carried learners using 2 buses and several vans to a game park. The number of buses and vans were less than 8. Let the number of vans be represented by x.
Which of the following inequalities correctly represents the given information?

A. $2+x<8$
B. $2+x>8$
C. $2-x<8$
D. $2-x>8$

28. A carpenter joined pieces of wood to make a door as shown.

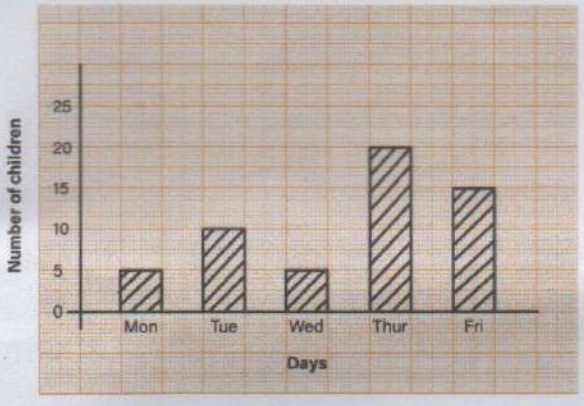


Which of the following pairs of wood are perpendicular?

A. **n** and **s**
B. **m** and **o**
C. **p** and **v**
D. **s** and **o**

Working Space

29. A nurse in a clinic recorded the number of children vaccinated between Monday **and Friday** of a given week as shown.



What is the difference between the highest and lowest number of children vaccinated?

A. 5
B. 10
C. 15
D. 20

30. A security officer in a school recorded the modes of transport used by learners while arriving at the school in the morning. The table shows the data that was collected.

Mode of Transport	**Tally**	**Frequency**
Motor bike	𝍸 𝍸 ////	
Bicycle		13
Matatu	𝍸 𝍸 /	
School bus		15

What is the least popular mode of transport used by the learners?

A. Matatu
B. Bicycle
C. Motor bike
D. School bus

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