313112313

THE KENYA NATIONAL EXAMINATIONS COUNCIL

KPSEA 2023

603HI

MATHEMATICS

Oct. 2023 — 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. Use an ordinary pencil.
5. Confirm that the answer sheet that you have been provided with has the following:

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

6. Do not make any marks outside the boxes.
7. Keep the answer sheet as clean as possible and do not fold it.
8. 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.
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. Which one of the following decimals are arranged from the smallest to the largest?
       A. 0.25, 0.5, 0.3, 0.75
       B. 0.75, 0.5, 0.3, 0.25
       C. 0.25, 0.3, 0.5, 0.75
       D 0.3, 0.25, 0.5, 0.75

   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 within the box.
11. For each question, **ONLY ONE** box is to be marked in each set of four boxes.

This question paper consists of 12 printed pages

1. Lorries delivered 84072 bags of maize to a refugee camp. What is the number of bags of maize in words?

   A. Eighty thousand four hundred and seventy two
   B. Eighty four thousand seven hundred and two
   C. Eighty four thousand and seventy two
   D. Eighty four thousand seven hundred and twenty

2. In a hospital, 436587 children were vaccinated against polio in a certain year. What is the total value of digit 6 in the number?

   A. 600
   B. 6000
   C. 60000
   D. 600000

3. A tree nursery had 368593 seedlings. Customers bought 27364 tree seedlings in a day. How many tree seedlings remained?

   A. 395957
   B. 341239
   C. 341229
   D. 94953

4. A milk processing factory produced 19468 packets of milk. How many packets of milk to the nearest thousands were produced?

   A. 20000
   B. 19500
   C. 19470
   D. 19000

5. What is the next number in the pattern?

8, 24, 72, 216, _____

A. 232
B. 264
C. 360
D. 648

6. Work out

$24 \div 3 + 9 \times 6 - 4$

A. 8
B. 26
C. 58
D. 98

7. Musa spent $\frac{2}{5}$ of his salary on food. He also spent $\frac{1}{4}$ of the salary on rent. What is the total fraction of the salary that Musa spent on food and rent?

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

B. $\frac{9}{20}$

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

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

8. What is the value of $9\frac{5}{6} - 1\frac{1}{3}$?

A. $11\frac{1}{6}$

B. $9\frac{1}{6}$

C. $8\frac{2}{3}$

D. $8\frac{1}{2}$

9. Wangeci made a necklace using red and green beads. The red beads used were 25% while the rest were green. Which of the following decimals represent the green beads?

A. 7.5
B. 0.75
C. 0.075
D. 0.0075

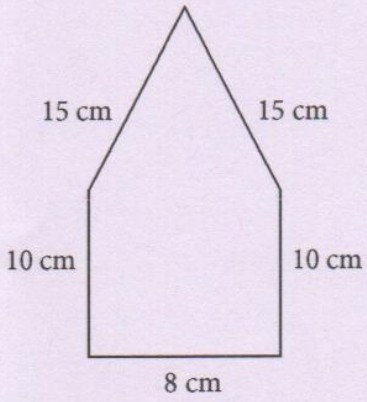
10. A tailor bought a fabric material. He used 0.263 of the fabric to make a pair of shorts, 0.287 to make a shirt and 0.45 to make a dress. How much of the fabric was used to make both the dress and the shirt?

A. 0.332
B. 0.637
C. 0.713
D. 0.737

11. The height of water in a dam increased by 5 cm after it rained. What is the increase in the height of water in millimetres?

A. 50
B. 500
C. 5000
D. 50000

12. A teacher drew the folowing shape on the board.



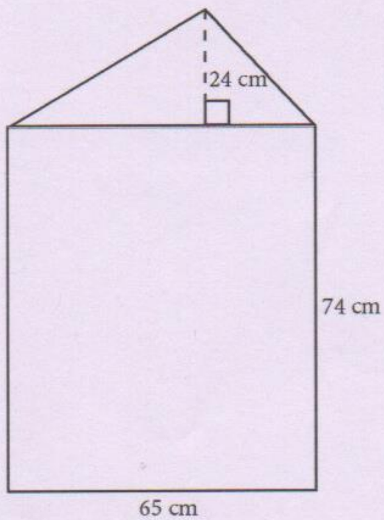
What is the perimeter of the shape?

A. 43 cm
B. 48 cm
C. 50 cm
D. 58 cm

13. A ribbon is 31 cm 6 mm long. Rehema cut 5 cm 3 mm of the ribbon to make a flower. What length of the ribbon remained?

A. 26 cm 3 mm
B. 34 cm 3 mm
C. 36 cm 9 mm
D. 36 cm 3 mm

14. A wall of a rabbit hutch is in the shape of a rectangle and a triangle as shown.



What is the area of the wall?

A. 6370 cm^2
B. 5590 cm^2
C. 4810 cm^2
D. 3185 cm^2

15. Kimeto drinks 3.7 litres of water everyday. How many millilitres of water does he drink?

A. 37
B. 370
C. 3700
D. 37000

16. A road construction company mixed sand and small stones. The mass of sand was 18 tonnes 481 kilograms. The mass of small stones was 12 tonnes 394 kilograms. What is the total mass of the mixture?

A. 30 tonnes 875 kilograms
B. 30 tonnes 775 kilograms
C. 20 tonnes 875 kilograms
D. 6 tonnes 87 kilograms

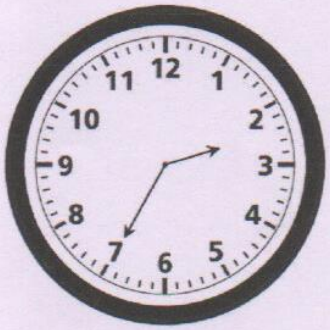
17. A tea processing factory distributed fertilizer to farmers using 4 lorries. Each lorry carried 24 tonnes 235 kilograms of fertilizer. What was the total mass of the fertilizer distributed?

A. 96 tonnes 940 kilograms
B. 96 tonnes 920 kilograms
C. 96 tonnes 840 kilograms
D. 86 tonnes 940 kilograms

18. A flower company exported 4850000 kilograms of fresh flowers. How many tonnes of fresh flowers did the company export?

A. 485000
B. 48500
C. 4850
D. 485

19. Wambua represented his school in a music festival. He began his performance in the afternoon at the time shown on the clock face.



At what time did Wambua begin his performance?

A. 2.07 p.m.
B. 2.35 a.m.
C. 2.35 p.m.
D. 3.35 p.m.

20. The table shows a travel timetable for a train from Manga station to Pate through Nanga.

Station	Arrival time	Departure time
Manga		6.15 a.m.
Nanga	8.30 a.m.	8.40 a.m.
Pate	11.54 a.m.	

A tourist travelled from Manga station to Pate using the train. How long did the journey take?

A. 5 hours 39 minutes
B. 3 hours 24 minutes
C. 3 hours 14 minutes
D. 2 hours 15 minutes

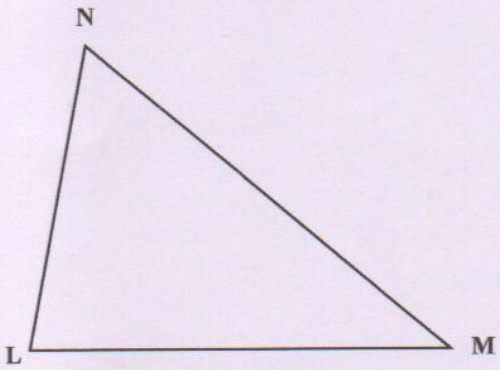
21. Ndemo assists his father to sell clothes in their shop. He sold a dress for sh 1 675. He made a profit of sh 390 after selling the dress. What was the buying price of the dress?

A. sh 2 065
B. sh 1 385
C. sh 1 325
D. sh 1 285

22. The area of a rectangular piece of paper is 72 cm^2. The length of the paper is 9 cm. What is the width of the paper in millimetres?

A. 0.8
B. 8
C. 80
D. 800

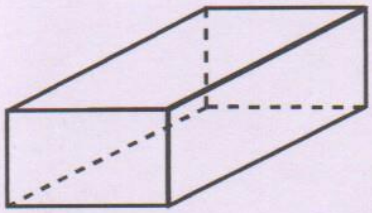
23. Omondi drew accurately the triangle shown on a piece of paper.



Measure angle LMN using a protractor. What is the size of angle LMN?

A. 100°
B. 80°
C. 60°
D. 40°

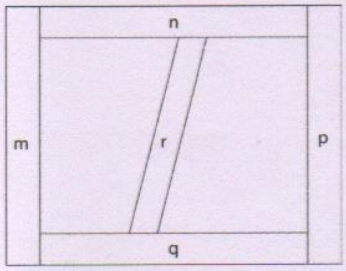
24. While picking litter in the school compound, Munya picked the following 3-D object.



How many edges does the object have?

A. 6
B. 8
C. 9
D. 12

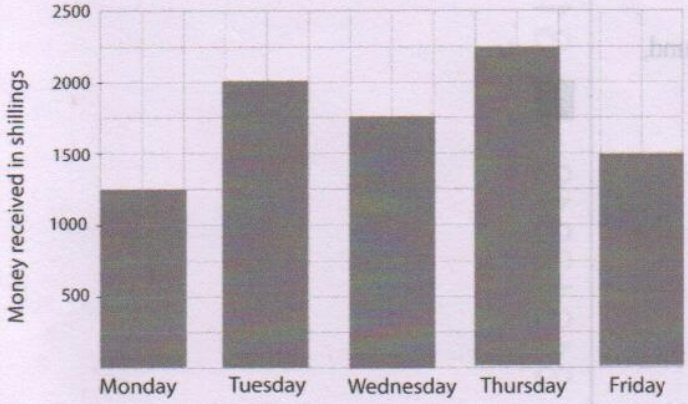
25. A carpenter joined five pieces of timber to make a window frame as shown.



Which of the following pieces of timber are parallel?

A. r and p
B. m and n
C. n and q
D. r and q

26. Grade 6 learners harvested tomatoes from their agriculture project. The bar graph shows the amount of money received from Monday to Friday after selling the tomatoes.



How much money did the learners receive on Wednesday?

A. sh 2 250
B. sh 2 000
C. sh 1 750
D. sh 1 500

27. During a geometry lesson, learners were asked to describe the faces of a cylinder, pyramid, cube and cuboid. Which of the following descriptions was correct?

A. A cylinder has a square face
B. A pyramid has a triangular face
C. A cube has a rectangular face
D. A cuboid has a circular face

28. The table shows the number of patients who were treated for various diseases in a dispensary. Some information is missing in the table.

Disease	Tally	Number of patients
Malaria		12
Diabetes	////	
Tuberculosis	//// /	
HIV/AIDS		8

How many patients were treated altogether?

A. 30
B. 20
C. 29
D. 10

29. Ngei had some oranges. He gave out 4 oranges to his friend. He remained with more than 6 oranges. Use letter p to represent the number of oranges that Ngei originally had. Which of the following inequalities correctly represents this information?

A. $p - 4 < 6$
B. $6 - p > 4$
C. $p - 4 > 6$
D. $p - 6 < 4$

30. A self-help group shared some money among 50 women. Each woman in the group got sh 8 500. Use letter x to represent the amount of money shared. Which of the following equations correctly represents this information?

A. $50x = 8\,500$

B. $\frac{50}{x} = 8\,500$

C. $x + 50 = 8\,500$

D. $\frac{x}{50} = 8\,500$