

KCPE NOVEMBER 2023 PREDICTION MASTER CYCLE 9 5160039

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KENYA NATIONAL PREDICTION TESTS
KCPE



516003

MATHEMATICS

Time: 2 hours

INSTRUCTIONS TO CANDIDATES (Please 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 this 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 the 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, 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 Booklet.

35. The following are factors of sixteen. Which one is the odd one out?
- A. 16
 - B. 1
 - C. 8
 - D. 3

5. (A) (B) (C) (D) 15. (A) (B) (C) (D) 25. (A) (B) (C) (D) 35. (A) (B) (C) (D) 45. (A) (B) (C) (D)

On the answer sheet:

In the set of boxes numbered 35, the box with the letter **D** 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.

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Contact Mr Machuki 0724333200/0795491185 for Marking Schemes or kenyaeducators.co.ke

1. Write three million three hundred and sixty five thousand and one hundred and eight in figures

A. 3300108
B. 3365008
C. 3300008
D. 3365108

2. How many groups of 1000 are there in the total value of digit 8 in 8462203?

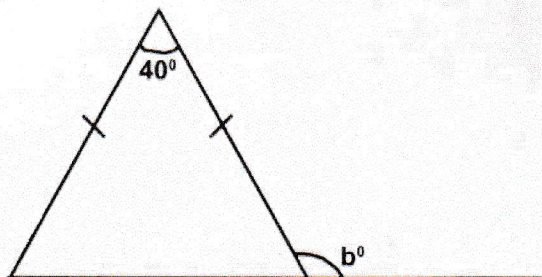
A. 800
B. 8000
C. 80000
D. 800000

3. Work out:

$$\frac{2}{3} \text{ of } 8 + \frac{2}{3} \div 4 =$$

A. $5\frac{1}{2}$
B. $5\frac{4}{6}$
C. $6\frac{1}{2}$
D. $7\frac{1}{3}$

4. Find the measurement of angle 'b' in the figure below



A. 70°
B. 160°

C. 110°

D. 40°

5. Simplify:

$$4(x + z - 3) + \frac{1}{2}(2x + 4z + 18)$$

A. $5x + 6z + 3$

B. $5x + 6z - 3$

C. $3x - 2z - 3$

D. $3x + 2z + 3$

6. Work out:

$$\frac{0.4 \times 7.14}{1.7 \times 0.21}$$

A. 8

B. 0.8

C. 0.08

D. 0.008

7. What is the next number in the series below?

1, 3, 7, 15, _____

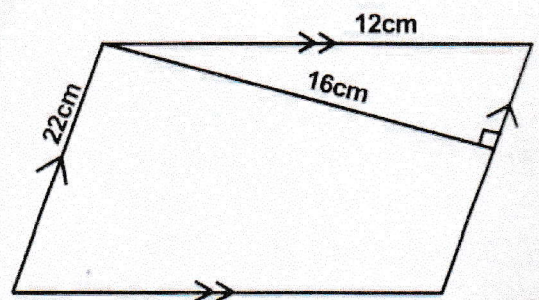
A. 31

B. 19

C. 28

D. 40

8. Find the area of the figure below



- A. 192cm^2
- B. 352cm^2
- C. 264cm^2
- D. 220cm^2

9. What is the square root of $7^9/16$

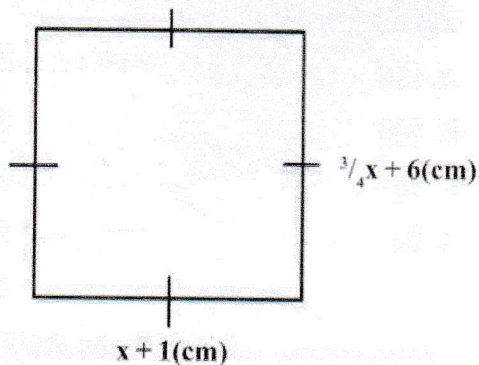
- A. $30^{1/4}$
- B. $7^{1/2}$
- C. $2^{3/4}$
- D. $7^{3/4}$

10. Given that $x = 2$, $w = 5$ and $y = 10$.

Find the value of $xw + \frac{1}{2}w^2y$

- A. 135
- B. 625
- C. 615
- D. 635

11. What is the area of the figure below?



- A. 441cm^2
- B. 21cm^2
- C. 84cm^2
- D. 28cm^2

12. Arrange the following fractions in their ascending order:

$$\frac{4}{9}, \frac{3}{7}, \frac{2}{5}, \frac{1}{2}$$

A. $\frac{2}{5}, \frac{1}{2}, \frac{3}{7}, \frac{4}{9}$

B. $\frac{2}{5}, \frac{3}{7}, \frac{4}{9}, \frac{1}{2}$

C. $\frac{3}{7}, \frac{1}{2}, \frac{4}{9}, \frac{2}{5}$

D. $\frac{1}{2}, \frac{4}{9}, \frac{3}{7}, \frac{2}{5}$

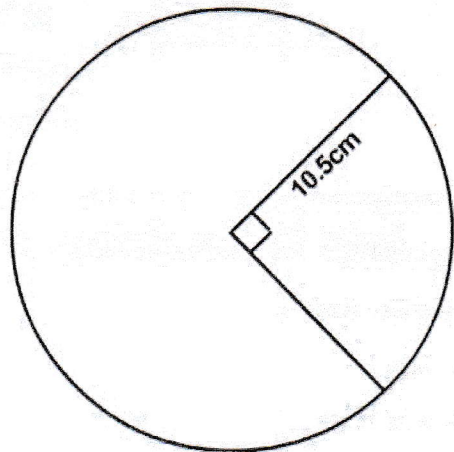
13. Katunda's hens laid 12000 eggs in the month of May. In June they laid total of 15000 eggs.

What was the percentage increase?

- A. 80%
- B. 20%
- C. 25%
- D. 75%

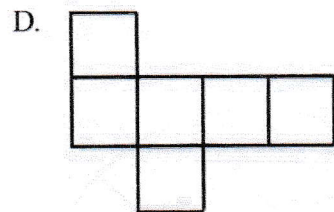
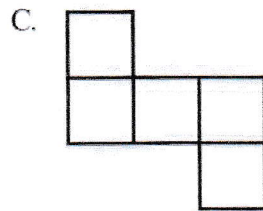
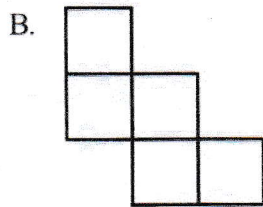
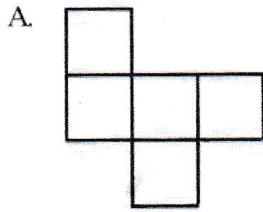
14. Find the perimeter of the following figure:

(Take $\pi = 3.14$) Round off to 1 decimal place.



- A. 70.5cm
- B. 21.0cm
- C. 49.5cm
- D. 91.5cm

15. Which one of the following nets will NOT make an open cube?



16. Construct a triangle in which $PQ = 7\text{cm}$, angle $RPQ = 110^\circ$ and angle $QRP = 40^\circ$.

Measure line PR

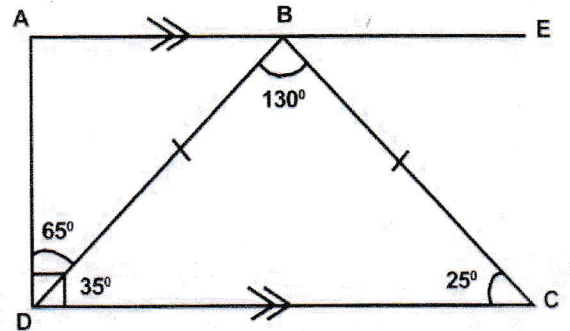
- A. 7cm
- B. 6.5cm
- C. 10.3cm
- D. 5.5cm

17. Convert $5\frac{3}{8}$ as decimal, correct to one decimal place.

- A. 5.5

- B. 5.3
- C. 6.0
- D. 5.4

18. In the figure below, what is the value of angle EBC?



- A. 90°
- B. 50°
- C. 130°
- D. 25°

19. A cyclist covered 140 km in 5 hours. What was his speed in km/h?

- A. 140
- B. 700
- C. 28
- D. 56

20. A businessman sold a dress and made 15% loss. If this was Sh. 225, how much did he sell the dress?

- A. Sh. 1275
- B. Sh. 1075
- C. Sh. 1500
- D. Sh. 225

21. The temperature of water is 42°C . What is the cooling rate. If it takes 21 minutes to cool the water to 0°C ?

- A. $21^{\circ}\text{C}/\text{min}$
- B. $42^{\circ}\text{C}/\text{min}$
- C. $0^{\circ}\text{C}/\text{min}$
- D. $2^{\circ}\text{C}/\text{min}$

22. Mary paid Sh. 1700 for a suit after being given a discount of 15%. What was the marked price of the suit?

- A. Sh. 1700
- B. Sh. 2000
- C. Sh. 1500
- D. Sh. 18000

Use the table below to answer question 23

Day	Mon	Tue	Wed	Thur	Fri	Sat
No. Elders	64	59	66	68	62	65

23. What was the mean number of elders who attended the baraza that week?

- A. 64
- B. 65
- C. 66
- D. 67

24. Katana deposited Sh. 200000 in a bank which pays $12\frac{1}{2}\%$ p.a. as simple interest. How much did he have at the bank after 6 months?

- A. Sh. 1250
- B. Sh. 212500

- C. Sh. 2500
- D. Sh. 22500

25. Jambo bought the following items:

4 loaves of bread @ Sh. 45

3 kg packets of sugar for Sh. 300

2 packets of tea leaves for Sh. 100

$1\frac{3}{4}$ kig of rice @ Sh. 160

$\frac{1}{2}$ kg meat @ Sh. 360

If he settled the bill using 4-five hundred shilling notes, how much was his balance?

- A. Sh. 3100
- B. Sh. 2000
- C. Sh. 1100
- D. Sh. 960

26. A road drawn using the scale 1:100000 is 2.5cm long on a map. Find its real length

- A. 2.5 km
- B. 25 km
- C. 250 km
- D. 2500 km

27. Which of the following statements is CORRECT?

- A. $1500\text{ml} = 15\text{dl}$
- B. $1.22 = 14.4$
- C. $2.5 \times 100 > 25 \times 10$
- D. $1.5 \text{ litres} < 150 \text{ ml}$

28. Write $2\frac{1}{2}\%$ as a ratio in its simplest form

- A. 200:5
- B. 40:1

- C. 5:200
D. 1:40
29. To send a telegram, the first ten words are charged Sh. 28. Any additional word is Sh. 2 and a tax of 10% is charged on the total. How much did Narendra pay for sending the following telegram?
ZEITUNI BOX 548 MANDERA ATTEND
GRADUATION NINETEEN DECEMBER
NINE MORNING BRING SON SABIR.
- A. Sh. 37.00
B. Sh. 39.60
C. Sh. 34.00
D. Sh. 38.00
30. Masha had Sh. 45000. He spend Sh. 12000 on transport, Sh. 14000 on food and Sh. 10000 on accommodation. Which of the following represents transport on a pie chart?
- A. 112°
B. 96°
C. 80°
D. 72°
31. A pipe of radius 3.5m and 10m long is to be painted. What area is covered by the paint?
(Take $\pi = \frac{22}{7}$)
- A. 77m^2
B. 207m^2
C. 220m^2
D. 350m^2

32. How many 100ml bottles can be filled from a tank containing 8 litres?
- A. 80
B. 8
C. 40
D. 800
33. Work out:
 $2\frac{3}{4} - 2\frac{4}{5} + \frac{1}{5}$
- A. $2\frac{19}{20}$
C. $\frac{4}{5}$
C. $\frac{15}{20}$
D. $\frac{3}{20}$
34. The following are properties of a certain solid:
- i) Five faces
ii) Six vertices
iii) Nine edges
- The solid is LIKELY to be
- A. triangular prism
B. square prism
C. rectangular pyramid
D. triangular pyramid
35. Work out:
 $200.8 - 461.6 + 340.08 =$
- A. 600.88
B. 322.32
C. 80
D. 79.28

36. Musa wanted to climb a wall 6 tall using a ladder 10m long. How far was the base of the ladder from foot of the wall?

- A. 14m
- B. 6m
- C. 10m
- D. 8m

37. Express $4\frac{2}{5}$ as a ratio

- A. 4:5
- B. 11:2
- C. 2:1
- D. 22:5

38. Katana went to a shop to buy sugar. The shopkeeper weighed for him 2000000g. How many tonnes were these?

- A. 20
- B. 2000
- C. 200
- D. 2

39. What is 75999160 rounded off to the nearest 1000?

- A. 759900
- B. 7599900
- C. 800000
- D. 759970

40. Work out:

$$\frac{4^2 (8^2 - 3^2)}{16}$$

- A. 880

- B. 55
- C. 800
- D. 80

41. 6 men employed to do some construction work in 18 days. Before they started 2 of them fell sick. How long did the rest take to do the work?

- A. 18 days
- B. 108 days
- C. 27 days
- D. 72 days

42. Find the surface area of a closed cuboid measuring 4cm by 6cm by 8cm

- A. 160cm^2
- B. 144cm^2
- C. 112cm^2
- D. 208cm^2

43. What is the square of $13\frac{1}{2}$?

- A. $180\frac{1}{4}$
- B. $18\frac{1}{4}$
- C. $200\frac{1}{4}$
- D. $182\frac{1}{4}$

44. Work out:

$$\sqrt{\frac{4}{25} - \left(\frac{1}{3}\right)^2}$$

- A. $\frac{25}{45}$
- B. $\frac{13}{45}$
- C. $\frac{1}{45}$
- D. $\frac{31}{45}$

45. A baby slept for $5\frac{3}{4}$ hours and woke up at 1830h. At what time had the baby slept?

- A. 12.45 a.m
- B. 12.45 p.m
- C. 1.45 p.m
- D. 1.15 p.m

46. Watela's chicken were 2400. During an outbreak of a disease, 360 of them died. What was the percentage decrease of the number of chicken?

- A. 15%
- B. 85%
- C. 30%
- D. 64%

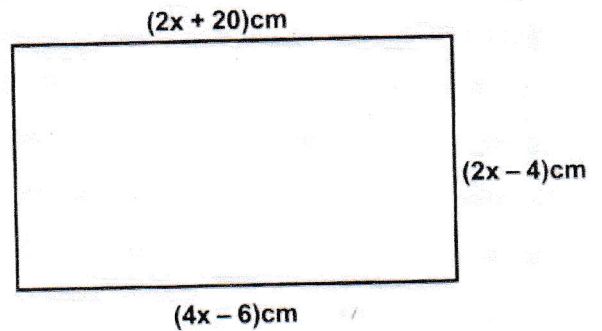
47. The two parallel sides of a trapezium are 18m and 22m respectively. The perpendicular distance between the sides is 13m. What is the area of the trapezium?

- A. $40m^2$
- B. $53m^2$
- C. $260m^2$
- D. 260m

48. A rectangle which is 90m long has the same area as a square of side 45m. What is the width of the rectangle?

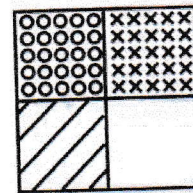
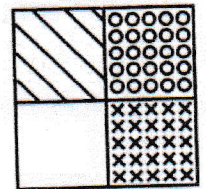
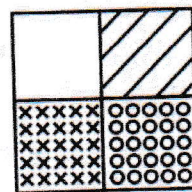
- A. 20.25m
- B. 4.5m
- C. 22.5m
- D. 2.25m

49. Find the perimeter of the figure below



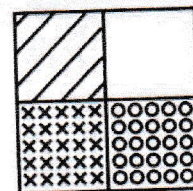
- A. 136
- B. 68
- C. 1021
- D. 13

50. What is the next figure in the pattern below?

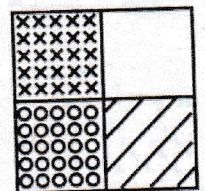


A.

B.



C.



D.

