035713655

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.

906503   © *Mtihani Bora*

1. What is twenty two million two hundred and two thousand two hundred and two and two hundredths written in figures?
   A. 20202202.02　　B. 22202202.02
   C. 22202202.2　　　D. 22202022.02

2. How many groups of tenths in the total value of digit five in the number 345.69?
   A. 50　　　　　　B. 5
   C. 500　　　　　D. 0.5

3. What is the place value of digit 7 obtained after working out $0.03 \div 40$?
   A. Hundredth　　　B. Thousandth
   C. Tenths　　　　D. Ten thousandth

4. Work out;
   $$3(4^2 - 3^2) + 20 \div 5 - 2 \times 5 + 1$$
   C. 16　　　　　　B. 27
   C. 7　　　　　　D. 8

5. During a wedding ceremony children were twice the number of adults. Women were twenty more than men. If the children were 248, how many men attended the wedding?
   A. 124　　　　　B. 62
   C. 52　　　　　D. 72

6. What is the value of; $\dfrac{4}{5} + \dfrac{1}{4}(\dfrac{1}{2} - \dfrac{1}{5})of\dfrac{3}{8} \div \dfrac{1}{4}$
   A. $\dfrac{189}{400}$　　　　B. $\dfrac{73}{80}$
   C. $2\dfrac{13}{80}$　　　　D. $1\dfrac{89}{40}$

7. Round off 5799.9996 to the nearest thousandths.
   A. 5800.000　　　B. 5799.000
   C. 5799.999　　　D. 5800

8. Eighty one electricity poles were used to supply electricity between two towns at an interval of 50 m. Find the distance from the first to the last pole in km.
   A. 4.1 km　　　　B. 4100 km
   C. 40 km　　　　D. 4 km

9. Calculate the area of the shaded part.

   A. 56 cm²　　　　B. 120 cm²
   C. 184 cm²　　　D. 64 cm²
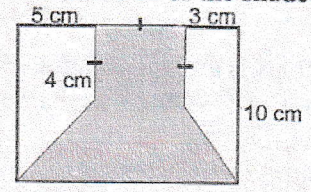
10. What is the sum of the next two numbers in the pattern; 5, 9, 18, 34, 59, ____, ____?
    A. 176　　　　　B. 239
    C. 144　　　　　D. 154

11. Sheila spends $\dfrac{1}{4}$ of her salary on rent, $\dfrac{1}{3}$ on food and $\dfrac{2}{3}$ of the remainder on school. If she saves the rest, what fraction of the salary is her savings?
    A. $\dfrac{5}{18}$　　　　B. $\dfrac{2}{5}$
    C. $\dfrac{13}{18}$　　　D. $\dfrac{5}{36}$

12. A section of a road 17.5 km is represented by a line 3.5 cm on the map. Find the scale on the map.
    A. 1:500000　　　B. 1:5
    C. 1:50000　　　D. 1:5000

13. Simplify; $\dfrac{\frac{1}{4}of\,2r^2 - wp}{tw - wp}$
    if $r = p + 2$, $t = 5$, $p = 4$, $w = p - 2$
    A. 10　　　　　B. 3.6
    C. 5　　　　　D. 28

14. Find the measure of the obtuse angle QRS in the figure below.

    A. 197⁰　　　　B. 163⁰
    C. 207⁰　　　　D. 183⁰

15. The fare from Meru to Nairobi was increased from sh 600 to sh 800 during the christmas holiday. What was the ratio increase?
A. 3:4   B. 30:4
C. 40:3   D. 4:3

16. A wheel made 2000 revolutions and covered a distance of 3.52 km. Calculate the radius of the wheel.
A. 56 cm   B. 42 cm
C. 28 cm   D. 21 cm

17. Which statement is true?
A. $0.8 = \dfrac{8}{9}$ B. $\dfrac{8}{9} > 0.8$

C. $0.8 > \dfrac{8}{9}$ D. $\dfrac{8}{9} < 0.8$

18. In Butengi Primary School the ratio of girls to boys is 5:3. There are 180 less boys than girls. How many pupils are in the school?
A. 450   B. 600
C. 720   D. 800

19. A watch gains 12 seconds every hour. It was set right on Monday at 2.00 pm. What time did it show after 10 hours?
A. 12.02 am   B. 11.58 pm
C. 12.02 pm   D. 4.00 pm

20. The height of the tank below is 1.2 m. It has water upto a depth of 70 cm. How many litres are needed to fill the tank?

30 cm
0.4 m
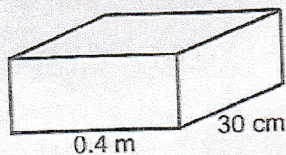
A. 144 L   B. 6 L
C. 84 L   D. 60 L

21. Simplify;
    4(3y + 4x) - 3(2y + 3x)
A 6y + 25x   B. 6y + 7x
C. 18y + 25x   D. 6y - 7x

22. A trader bought 200 cabbages for sh 10 per cabbage. He used sh 240 for lunch and transport. On the way 20 cabbages were spoilt and he sold the rest at sh 18 per cabbage. Calculate his profit.
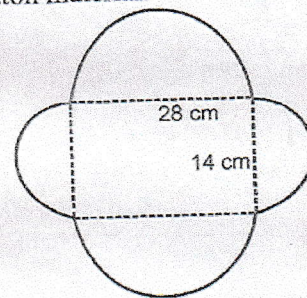A. sh 1000   B. sh 5240
C. sh 2240   D. sh 1240

23. David earns sh 25500 after working for 30 days. How much less will he earn if he is absent for 6 days?
A. sh 30600   B. sh 20400
C. sh 5100   D. sh 6200

24. The figure below shows a table mat made of cotton material.

28 cm
14 cm

Calculate the area of material used to make it?
A. 342 cm²   B. 1162 cm²
C. 1540 cm²   D. 770 cm²

25. Which of the following measurements will form a right angled triangle?
A. 5m, 1.2m, 1.3m   B. 0.3m, 0.4m, 5m
C. 1.2m, 1.6m, 2.5m D. 1m, 2.4m, 2.6m
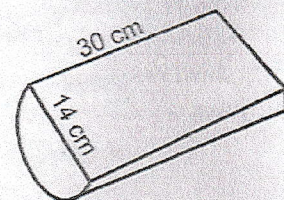
26. By selling a jacket for sh , Dan gave the customer a 10% discount. How much more would the customer have paid if the discount was 7%?
A. sh 45   B. sh 1500
C. sh 105   D. sh 1395

27. Convert $12\dfrac{1}{2}\%$ into a ratio.
A. 1:8   B. 1:80
C. 1:4   D. 1:40

28. Calculate the volume of the solid below in cubic centimetres. ($\pi = {}^{22}/_{7}$)

30 cm
14 cm

A. 4620   B. 1234

C. 2310   D. 420

29. Solve for m in the equation; $\frac{m}{2} + \frac{m+1}{4} = 4$

   A. 8   B. $5\frac{1}{3}$

   C. $7\frac{1}{2}$ D. 5

30. Oloo deposited sh 30000 in a bank that paid simple interest at the rate of 5% per month. How much interest was in his account at the end of 1 year and 2 months?
   A. sh 21000   B. sh 51000
   C. sh 1750   D. sh 31750

31. Monica is twice as old as her daughter. The daughter is 5 years older than the brother. In five years time the sum of their ages will be 90. If the brother is n years old, how old is the mother now?
   A. 25   B. 65
   C. 45   D. 40

32. Work out; $\frac{4.5 \times 2.4 \div 0.8 - 2.7}{0.35 + 0.55}$

   A. 1.2   B. 12
   C. 120   D. 24

33. The hire purchase price of a fridge is 20% more than the cash price. The cash price is sh 20000. Henry bought it by paying a deposit of sh 8000 and the rest in instalments of sh 800 per month. For how long did he pay for the fridge?
   A. 15 months   B. $1\frac{1}{2}$ years

   C. $1\frac{2}{3}$ years   D. 16 months

34. Thirty men can clear a piece of land in 20 days. How much longer would it take to clear the land if six men failed to turn up?
   A. 25   B. 10
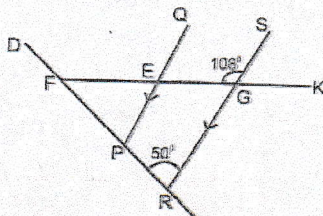   C. 5   D. 8

35. In the figure below PQ and RS are parallel lines.

Find the measure of angle EFD.
   A. 72°   B. 122°
   C. 108°   D. 100°

36. A driver was to cover a 350 km journey driving at a speed of 70km/hr. He started at 0830 hours, expecting to arrive on time. However, he had to stop after driving for two hours to refuel and take lunch which took 30 minutes. At what speed must he drive to arrive at the expected time?
   A. 84 km/h   B. 105 km/h
   C. 100 km/h   D. 70 km/h

37. A piece of land measures 100 m by 50m. It is fenced using 5 strands of wire leaving a distance 10 metres for the gate. Calculate the length of wire used.
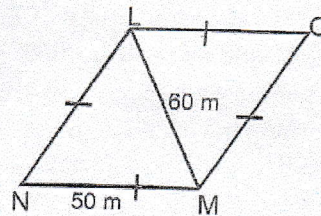   A. 300 m   B. 5000 m
   C. 1500 m   D. 1450 m

38. Calculate the area of the rhombus. The diagonal line LM is 60 m.

   A. 2400 m²   B. 3000 m²
   C. 1200 m²   D. 6000 m²

39. A bus arrived in Nairobi at 4.40 am on Monday after travelling for 8h 30 minutes from Mombasa. On which day and time had the bus left Mombasa?
   A. Sunday, 8.10 am   B. Sunday, 8.10 pm
   C. Monday, 8.10 am   D. Monday, 8.30 pm

40. Kamau bought the following items from a shop;
   $3\frac{1}{2} kg$ of rice @ sh 120
   $1\frac{1}{2} kg$ of meat @ sh 240

   2 loaves of bread @ sh 50
   2-2kg packets of unga @ sh 110
   What balance did he get if he paid for the items using 3-sh 500 notes?
   A. sh 1100   B. sh 1210
   C. sh 290   D. sh 400

41. Construct triangle PQR where line PQ = 9cm, QR = 12 cm and angle PQR is a right angle. Draw a circle touching the sides of the triangle. Measure hthe radius.
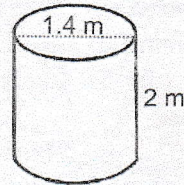   A. 3 cm
   B. 3.5 cm
   C. 6 cm
   D. 7 cm

42. The diagonal of a rectangular piece of land is 50m. On of its shorter sides is 14m. Calculate its perimeter.
   A. 48 m
   B. 124 m
   C. 62 m
   D. 672 m

43. Calculate the surface area of the closed cylindrical tank below.

   A. 11.88 m^2
   B. 10.34 m^2
   C. 3.08 m^2
   D. 1188 m^2

44. A salesman is paid a basic salary of 5% on value of goods sold up to sh 120000. He is also paid a commission of $2\frac{1}{2}$% on goods sold above 120000. Calculate his total salary during a month in which he sold goods worth sh 300000?
   A. sh 6000
   B. sh 7500
   C. sh 10500
   D. sh 13500

45. The following are characteristics of a quadrilateral;
   i) Diagonals are not equal
   ii) Some angles are equal
   iii) In teriror angles add up to four right angles
   iv) All sides are equal.
   The quadrilaterial described above is a;
   A. Rhombus
   B. Rectangle
   C. parallelogram
   D. Square

46. The mean of 6 numbers is 7.5. Five of the numbers are 10, 7, 8, 9 and 3. Find the sum of median and mode.
   A. 8
   B. 17
   C. 15.5
   D. 16

47. A tank has water to a level of 2000 cm. A family uses 20% of the water daily. Find the level of water at the end of the second day?
   A. 1200
   B. 1600
   C. 1280
   D. 1400

48. The table below show the marks scored by a pupil during a test.

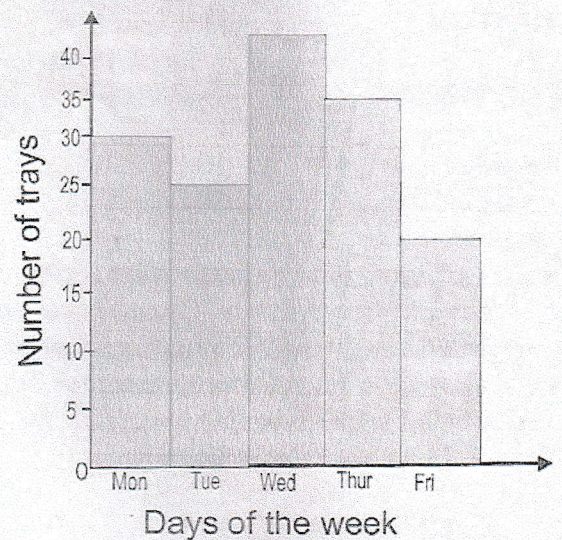| SUBJECT	MATHS	ENGLISH	KISW	SCIENCE	S/ST
SCORE	88	84	68	90	70

   If a pie chart was to be drawn, what angle would represent Kiswahili?
   A. 79.2
   B. 63
   C. 81
   D. 61.2

49. What is the difference of the LCM of 12 and 8 and the GCD of 22 and 66?
   A. 46
   B. 2
   C. 13
   D. 528

The graph below shows the number of trays of eggs sold by a farmer during the week.

50. If a tray holds 30 eggs, on which day did the farmer collect 1050 eggs?
   A. Monday
   B. Wednesday
   C. Friday
   D. Thursday