THE KENYA NATIONAL EXAMINATIONS BOARD

STANDARD SEVEN

MATHEMATICS

2021: 2 hours

PG:03

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. 32

The correct answer is D (32).

On the answer sheet:

5. ᴬA ᴮB ᴄC ᴰD 15. ᴬA ᴮB ᴄC ᴰD 25. ᴬA ᴮB ᴄC ᴰD 35. ᴬA ᴮB ᴄC ⊕ 45. ᴬA ᴮB ᴄC ᴰD

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.

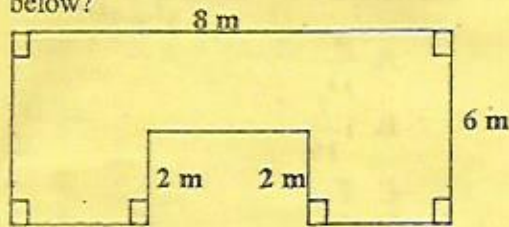This Question Paper consists of 8 printed pages

TURN OVER

PRL GOLD

1. What is 80008.008 written in words?

   A. Eight thousand and eight and eight thousand.
   B. Eighty thousand and eight and eight thousandths.
   C. Eighty thousand and eight and eight hundredths.
   D. Eighty thousand and eight point zero zero eight.

2. What is 69806 rounded off to the nearest thousands?

   A. 69800
   B. 69000
   C. 70000
   D. 7000

3. Work out : $\sqrt{7\frac{9}{16}}$

   A. $2\frac{3}{4}$

   B. $1\frac{2}{3}$

   C. $\frac{11}{16}$

   D. $7\frac{3}{4}$

4. What is the HCF of 36, 45 and 63?

   A. 144
   B. 126
   C. 9
   D. 3

5. Work out: $5(3^2 - 2^2) + 24 \div 4$?

   A. 31
   B. 16
   C. 11
   D.

6. Convert $2\frac{2}{5}$ to a decimal.

   A. 2.4
   B. 0.416
   C. 0.024
   D. 24.00

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

   $\frac{5}{6}, 1\frac{1}{2}, 2\frac{1}{6}, 2\frac{5}{6}, \underline{\quad?\quad}$

   A. $3\frac{1}{6}$

   B. $3\frac{5}{6}$

   C. $3\frac{1}{2}$

   D. $4\frac{1}{2}$

8. What is the place value of digit 9 when 24072 is divided by 8?

   A. Tens
   B. Ones
   C. Hundreds
   D. Thousand

9. Increase sh. 20,000 by 20%

   A. sh. 4000
   B. sh. 16000
   C. sh. 18000
   D. sh. 24000

10. What is the value of: $\frac{1}{2} of \left(\frac{2}{4} - \frac{2}{5} \right) \div 2\frac{4}{5}$

   A. $\frac{1}{16}$

   B. $\frac{1}{28}$

   C. $\frac{13}{56}$

   D. $\frac{1}{56}$

11. What is the perimeter of the figure below?

8 m

6 m

2 m   2 m

- A. 32m
- B. 30m
- C. 24m
- D. 18m

12. A trader bought a bicycle for sh. 9600 and later sold it for sh. 12000. What was his percentage profit?

- A. 10%
- B. 15%
- C. 24%
- D. 25%

13. What is the value of q in the equation below? $\frac{2q-1}{5}+q=4$

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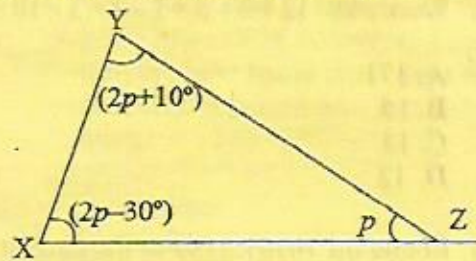- B. $1\frac{2}{5}$
- C. 3
- D. 7

14. What is the sum of all prime numbers between 50 and 60?

- A. 104
- B. 112
- C. 161
- D. 220

15. Simplify: $2(4c+5d)+\frac{2}{5}(15c-10d)$

- A. $17c+16d$
- B. $17c+4d$
- C. $11c+8d$
- D. $17c-4d$

16. What is the measure of angle XYZ?

Y

$(2p+10°)$

$(2p-30°)$
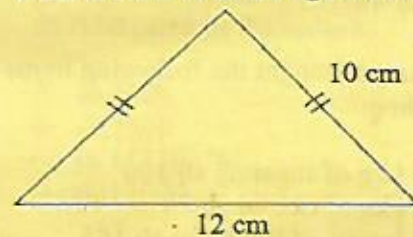
X   P   Z

- A. 28°
- B. 33°
- C. 40°
- D. 90°

17. A farmer has a square plot of land measuring 200m. What is the area of the plot in Ares?

- A. 40000 Ares
- B. 400 Ares
- C. 40 Ares
- D. 20 Ares

18. Arrange the following fractions in a descending order: $\frac{3}{4},\frac{5}{6},\frac{2}{3},\frac{7}{8}$

- A. $\frac{7}{8},\frac{5}{6},\frac{3}{4},\frac{2}{3}$
- B. $\frac{2}{3},\frac{3}{4},\frac{5}{6},\frac{7}{8}$
- C. $\frac{5}{6},\frac{7}{8},\frac{3}{4},\frac{2}{3}$
- D. $\frac{7}{8},\frac{3}{4},\frac{5}{6},\frac{2}{3}$

19. What is the area of the figure below?

10 cm

12 cm

- A. 22 cm²
- B. 32 cm²
- C. 48 cm²
- D. 60 cm²

20. Work out: $12 \div 3 + 8 \times 5 - 9 \div 3 \times 10 - 1$

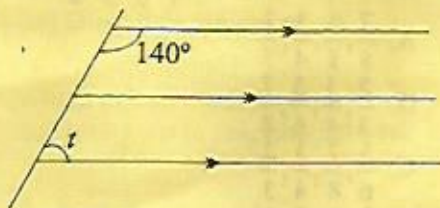   A. 171
    B. 15
    C. 13
    D. 12

21. Round off 76767.6133 to the nearest hundredths.

    A. 76767.61
    B. 76767.60
    C. 76800.6133
    D. 76767.70

22. Which of the following measurements will form a right angled triangle?

    A. 5cm, 9cm, 12cm
    B. 9cm, 13cm, 15cm
    C. 8cm, 12cm, 15cm
    D. 2.5cm, 6cm, 6.5cm

23. What is the size of the angle marked t?

    A. 180°
    B. 140°
    C. 70°
    D. 40°

24. Lenox bought the following items from a shop:

$4\frac{1}{2}$ kg of sugar @ sh 100
$2\frac{1}{2}$ kg of rice @ sh 80
3 loaves of bread for sh 165
1 bar soap @ sh 150

If he paid for the item using a sh 1000 note, how much balance did he get?

    A. sh 965
    B. sh 135
    C. sh 35
    D. sh 1965

25. Work out: $\dfrac{\sqrt{225-81}+\sqrt{196}}{3^2+2^2}$

    A. $\dfrac{4}{13}$
    B. $1\dfrac{7}{15}$
    C. 2
    D. 4

26. Sharone had 8 tonnes of wheat which she repacked in $\frac{1}{4}$ kg packets. How many packets did she obtain?

    A. 320000
    B. 32000
    C. 320
    D. 32

27. If 20% of a quantity is 1200, what is 60% of the same quantity?

    A. 3600
    B. 2400
    C. 400
    D. 144

28. A road 400 km is represented on map by 8cm. What scale is used in the drawing?

    A. 1:50
    B. 1:50000
    C. 1:500000
    D. 1:5000000

29. Simplify the inequality below

$9x + 3x < 4x + 17$

    A. $7x = 17$
    B. $x < 2\frac{1}{8}$
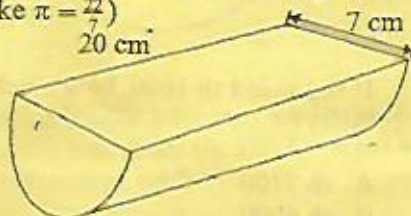   C. $x > 2\frac{1}{8}$
    D. $8x < 17$

30. Write 0.75 as a ratio in its simplest form.

    A. 3:4
    B. 4:3
    C. 3:7
    D. 3:40

31. What is the value of: $\dfrac{2t^2-2(r-w)}{r-w}$
    when $t=3$, $w=2$ and $r=4$?

    A. 16
    B. 7
    C. 4
    D. 3

32. What is the volume of the figure below?
    (Take $\pi=\frac{22}{7}$)

    A. 220 cm³
    B. 385 cm³
    C. 440 cm³
    D. 770 cm³
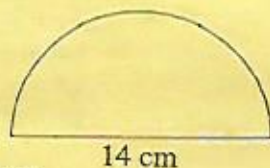
33. Construct triangle ABC where AB = 7 cm, BC = 8 cm and angle. ABC = 65°. What is the length of line AC?

    A. 8 cm
    B. 7 cm
    C. 4 cm
    D. 3.5 cm

34. A train 150 m long passes a signal post in 10 seconds. What is its speed in Km/hr?

    A. 54 km/hr
    B. 150 km/hr
    C. 15 km/hr
    D. 1500 km/hr

35. What is the perimeter of the figure below? (Take $\pi=\frac{22}{7}$)

    14 cm

    A. 22 cm
    B. 28 cm
    C. 36 cm
    D. 44 cm

36. A company was to hire 8 men to do a piece of work in 10days. If 3 men did not turn up, how many more days did the men who reported take to finish the work?

    A. 16 days
    B. 10 days
    C. 8 days
    D. 6 days

37. Nevine deposited sh 10,000 in a bank which paid simple interest at the rate of $10\frac{1}{2}\%$ pa. If she withdrew all the money after 3 years, how much did she withdraw?

    A. sh 3150
    B. sh 3000
    C. sh 13150
    D. sh 13000

38. Lydia is paid a salary of sh. 12000 plus 10% commission on sales above sh 20,000. In a certain month she sold goods worth sh 50,000. How much did she earn that month?

    A. sh 18000
    B. sh 15000
    C. sh 8000
    D. sh 30000

39. Hesbon paid sh 10200 for a radio after getting a discount of 15%. What was the marked price of the radio?

    A. sh 1530
    B. sh 8670
    C. sh 11730
    D. sh 12000

40. Work out: $\dfrac{4.8-0.5\times3.2}{0.04}$

    A. 80
    B. 8
    C. 0.8
    D. 0.08

41. In the year 2020, 12ᵗʰ February was a Tuesday. Which day was 12ᵗʰ April the same year?

   A. Saturday
   B. Thursday
   C. Friday
   D. Sunday

42. A family uses an average of 16 decilitre of milk daily. How many litres does the family use in the months of May and June?

   A. 97.6 litres
   B. 87.2 litres
   C. 72 litres
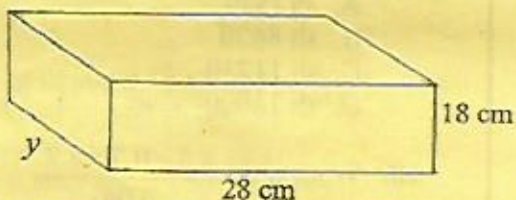   D. 49.6 litres

43. The following are properties of a certain type of quadrilateral:

   (i) All sides are equal
   (ii) Some angles are equal
   (iii) Two pairs of parallel sides
   (iv) Diagonals are not equal

   Which one of the following quadrilaterals is described above?

   A. Square
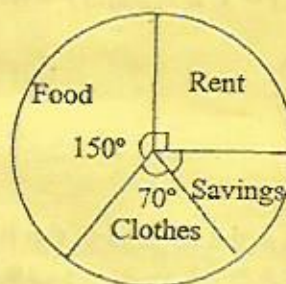   B. Parallelogram
   C. Rhombus
   D. Rectangle

44. The volume of the cuboid below is 6048 cm³.

18 cm

y

28 cm

What is the value of y?

   A. 9 cm
   B. 12 cm
   C. 14 cm
   D. 24 cm

45. The pie chart below shows how Joy spent her salary in a certain month.

If she saved sh 1000, how much was her salary?

   A. sh 7200
   B. sh 6000
   C. sh 6200
   D. sh 7000

46. Luke bought a TV set on hire purchase terms. He paid a deposit of sh 9000 and nine monthly instalments of sh 3000. The hire purchase was 20% more than the marked price. What was the marked price of the TV set?

   A. sh 28800
   B. sh 36000
   C. sh 43200
   D. sh 30000

47. What is the difference of the mean and mode of the following numbers?
   3, 6, 2, 6, 4, 8, 6
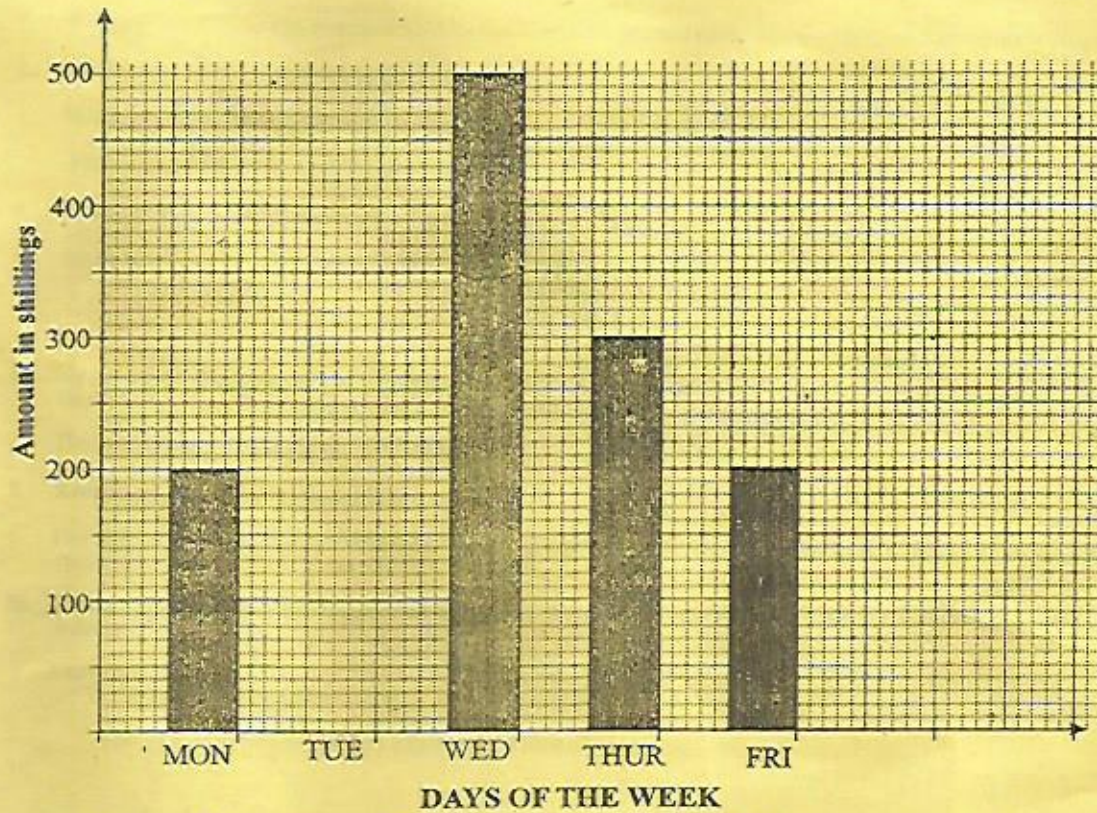
   A. 35
   B. 6
   C. 5
   D. 1

48. What is the smallest number that can be added to 97850 to make it divisible by 11?

   A. 2
   B. 5
   C. 6
   D. 9

49. Bethwel started reading at 2010 Hrs and stopped at 11.29 pm for how long did he read?

   A. 2 hours 19 minutes
   B. 3 hours 19 minutes
   C. 2 hours
   D. 3 hours

50. The graph below shows the amount of money collected by std 7 pupils for the Home Science lesson in a week.

What was the average collection per day during the week?

   A. sh 240
   B. sh 300
   C. sh 400
   D. sh 1200

THIS IS THE LAST PRINTED PAGE.