K.C.P.E BOOSTER
STD. 8 TERM 3 - 2014
MATHEMATICS

READ THESE INSTRUCTIONS CAREFULLY

1   Use an ordinary pencil only.

2   Make sure that you have written on the answer sheet.

Time: 2 Hrs

I. YOUR NAME   II. YOUR INDEX NUMBER   III. NAME OF YOUR SCHOOL

1. Which one of the following is fifty million two hundred and five thousand and eighty two in digits?
   A. 50 250 082   B. 50 025 082
   C. 50 205 082   D. 50 200 582

2. What is the number 5826.3407 rounded off to the nearest hundredths?
   A. 5826.34   B. 5826.340
   C. 5826.341   D. 5826.3410

3. Felix left home on 21st January 2008 at 12.30 p.m. He arrived back home on 2nd March 2008 at 4.00 p.m. How many nights did he spend away from home?
   A. 40   B. 41   C. 42   D. 43

4. What is the place value of digit 5 obtained after working out the multiplication of 4.75 and 8.7?
   A. Tenths   B. Hundredths
   C. Thousands   D. Thousandths

5. What is value of $\dfrac{7 + 4.86 \times 1.5 - 2.13}{4}$?
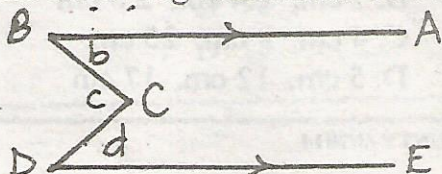   A. 3.4   B. 4.34
   C. 3.04   D. 10.06

6. Jabet had the following amount of money in her petty cash box.

Value of coin/ note in Shs.	1	5	10	20	50	100	200	500	1000
Number of coins/notes	25	20	20	30	5	4	4	1	2

   How much in total did she have in the box?
   A. Sh. 1886   B. Sh. 4875
   C. Sh. 2983   D. Sh. 2886

7. In the figure below, line AB is parallel to ED. Which of the following statements below is correct?

   A. Angle C is right angled
   B. Angle b = angle d
   C. Angle b + angle c = 360°
   D. Angle c = angle b + angle d

8. What is square root of $22^{9}/_{16}$?
   A. 19   B. $1^{3}/_{16}$
   C. $1^{1}/_{4}$ D. $4^{3}/_{4}$

9. What is the next number in the sequence below;
   2, 5, 14, 41, _____ ?
   A. 122   B. 81   C. 68   D. 55

10. Write the expression below in its simplest form.
    $$\dfrac{2\,(9x + 6) - {}^{1}/_{2}\,(12x - 24)}{4\,(3x - 3)}$$
    A. $\dfrac{18x + 12 - 6x + 12}{12x + 12}$

    B. $\dfrac{12\,(x + 2)}{12\,(x - 1)}$

    C. $\dfrac{x + 2}{x - 1}$
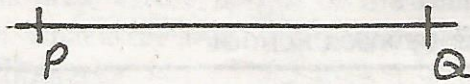
    D. $\dfrac{12x + 24}{12x - 12}$

11. A plane left Nairobi 2350h on Monday and took 1 h 45 min to reach Mombasa where it stopped for 50 minutes. It then left Mombasa and took 40 minutes to reach Zanzibar. At what time in am/pm system did it reach Zanzibar?
    A. 2.15 a.m   B. 3.05 a.m
    C. 2.15 p.m   D. 3.05 p.m

12. The area of a square flower garden is 331/16 square metres. If it is to be fenced using two strands of barbed wire, what is the length of the wire needed?

   A. 46 m   B. $11\frac{1}{2}$ m   C. $5\frac{3}{4}$ m   D. 23

13. Line PQ shown below is one side of a quadrilateral PQRS. Complete the quadrilateral given that angle PQR = 120o and line QR = 7 cm, RS = 8 cm and PS = 9 cm.

   What is the size of angle QRS?
   A. 75°   B. 80°   C. 86°   D. 90°

14. What is the value of: $3\frac{1}{3}$ of $(\frac{1}{5} - \frac{1}{6}) \div \frac{5}{18}$?

   A. 360   B. $2\frac{1}{2}$ C. $27\frac{7}{9}$ D. $\frac{2}{5}$
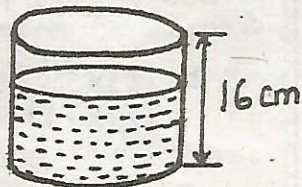
15. The market price of a dress is Sh. 1200. Cherono bought the dress at $12\frac{1}{2}$% discount. She gave the shopkeeper a one thousand shilling note. How much more money did she have to add to settle her bill?
   A. Sh. 1050   B. Sh. 150
   C. Sh. 350   D. Sh. 50

16. What is the sum of L.C.M of 30, 45 and 60 and the G.C.D of 120 and 210?
   A. 30   B. 150   C. 180   D. 210

17. The diagram below shows a cylindrical water tank three quarter full of water. If the volume of the water in the tank is 7.392 litres, calculate the diameter of the tank.

   A. 21 cm   B. 28 cm
   C. 26 cm   D. 14 cm

18. Which is the correct order of writing the fractions $\frac{5}{6}$, $\frac{2}{3}$, $\frac{9}{10}$ and $\frac{3}{5}$ from the largest to the smallest?

   A. $\frac{9}{10}$, $\frac{5}{6}$, $\frac{2}{3}$, $\frac{3}{5}$ B. $\frac{2}{3}$, $\frac{3}{5}$, $\frac{5}{6}$, $\frac{9}{10}$

   C. $\frac{3}{5}$, $\frac{2}{3}$, $\frac{5}{6}$, $\frac{9}{10}$ D. $\frac{3}{5}$, $\frac{5}{6}$, $\frac{2}{3}$, $\frac{9}{10}$

19. The following are properties of a quadrilateral.
   i) Has all sides equal.
   ii) Has only a pair of parallel sides.
   iii) Diagonals are not equal.
   iv) Opposite angels are equal.
   v) Diagonals bisect each other at right angles
   vi) Diagonals are equal.
   Which of the above properties apply to a rhombus?
   A. i, iii, vi   B. i, ii, v   C. iii, iv, v   D. ii, iv, vi

20. The table below shows the number of HIV/AIDS patients who visited a VCT centre in one week.

Mon	Tue	Wed	Thu	Fri	Sat
160	190		218	236	276

   If the mean attendance for the six days was 216, how many more patients visited the VCT centre on Wednesday than on Monday?
   A. 56   B. 26   C. 180   D. 216

21. What is the value of p in the equation?
   $$\frac{2(p - 2)}{3} + 2p - 7 = 5$$

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

22. Construct triangle ABC in which line AB = 5 cm, angle ABC = 86° and angle CAB = 55°. Draw a perpendicular from B to meet line AC at S. What is the measure of line BS?
   A. 2.9 cm   B. 5.0 cm   C. 4.1 cm   D. 6.5 cm

23. A packet is in the form of a pyramid with a square base. Which one of the following statements is **TRUE** of the number of faces, edges and vertices?
   A. 2 faces, 1 edge and 1 vertex
   B. 4 faces, 6 edges and 4 vertices
   C. 5 faces, 8 edges and 5 vertices
   D: 5 faces, 9 edges and 6 vertices

24. Thirty people working at the same rate were hired to build a bridge in 20 days. Eighteen of the people failed to turn up. How many more days did it take to complete the work?
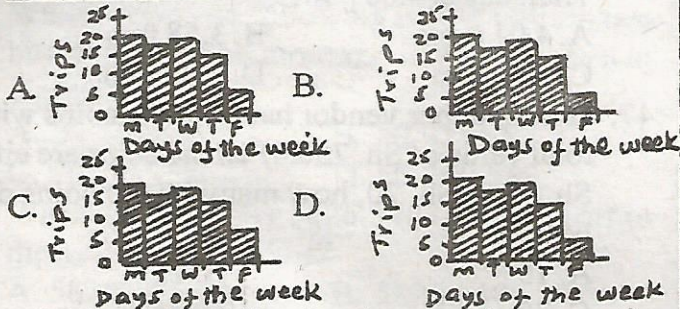   A. 50   B. 8   C. 12   D. 30

25. Which one of the following sets of measurements will form a right angled triangle when drawn?
   A. 2.1 cm, 7.2 cm, 7.5 cm
   B. 7 cm, 2.4 cm, 2.5 cm
   C. 4 cm, 9 cm, 25 cm
   D. 5 cm, 12 cm, 17 cm

26. A lorry is to carry 40 cartons each containing 200 tins. If one tin weighs 500 grams, what is the total mass of the tins in tones?

A. 4000 B. 400 C. 40 D. 4

27. If a trader sold an article for Sh. 340, he would make a loss of 15%. What percentage profit would he make by selling the article for Sh.500?

A. 15% B. 25% C. 10% D. 20%

28. The table below shows a number of trips made by a ferry between Mbita town and Lwanda beach in a week.
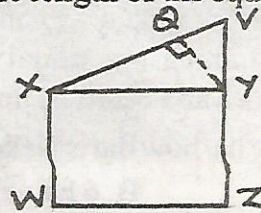
Day	Mon	Tue	Wed	Thu	Fri
Trips	20	17	18	14	6

Which of the following bar graphs correctly represent this information?

29. David deposited a certain amount of money in a bank which paid an interest at the rate of 10% p.a. At the end of nine months, his money had earned Sh. 2,250 interest. What was the total amount in his account at the end of the 9 months?

A. Sh. 30,000 B. Sh. 27,750
C. Sh. 32,250 D. Sh. 34,500

30. There were x cows in a farm. The number of sheep in the farm was five times the number of cows but fifty six more than that of goats. The total number of cows, sheep and goats in the farm was 350. Which one of the following expressions can be used to find the number of cows in the farm?

A. 11x + 56 = 350 B. 5x + 11 = 350
C. 6x + 56 = 350 D. 11x - 56 = 350

31. The cash price of a dining set is Sh. 24 000. Its hire purchase price is 25% more than the cash price. Obote bought the dining set on hire purchase whereby he paid a deposit of Sh. 9 600. He paid the balance in equal monthly instalments of Sh. 1 700. How many instalments did he pay?

A. 10 B. 12
C. 24 D. 18

32. In the figure below, the area of WXYZ is 31.44 cm². The length of QY is 3 cm and the length of XV is 5.6 m. If WXYZ is a square, what is the length of the square?

A. 4.8 cm B. 23.04 cm
C. 8.4 cm D. 5.6 cm

33. A sales man earns a basic salary of Sh. 4000. He is also paid a 3% of the value of items he sells above Sh. 10,000. In one month he was paid a total of Sh. 4900. How much was the sale of the goods?

A. Sh. 400 000 B. Sh. 18 900
C. Sh. 8900 D. Sh. 40 000

34. In a map drawn to scale 1:5000 is a plot of land in the shape of a trapezium whose parallel sides measure 10 cm by 4 cm. The perpendicular distance between them is 6 cm. What is the actual side of the plot in hectares?

A. 7 ha B. 10.5 ha
C. 21 ha D. 105 ha

35. What is the value of:

$0.67 + 0.4$ of $(0.75 - 0.375) + 0.5 \times 0.8$

A. 0.15 B. 1.17 C. 1.22 D. 1.65

36. At the beginning of the year 2012, there were 800 pupils in a school of whom 55% were boys. At the end of the year the number of girls had decreased by 20% and that of boys had increased by 10%. What was the total number of pupils in the school at the end of the year?

A. 828 B. 772 C. 684 D. 916

37. Rotich used 9 square carpet to cover a room whose area is 64 m². What was the length of one side of each carpet?

A. $7\frac{1}{9}$ m B. $4\frac{1}{2}$ m C. $5\frac{1}{3}$ m D. $2\frac{2}{3}$ m

38. During an election in a county, Otieno, Suleiman and Mojaka contested for a position. Otieno got 6379 votes. Suleiman got 634 votes more than Mojaka who got 353 votes more than Otieno. If 408 votes were spoilt, how many votes were cast altogether?

A. 20 885 B. 7 774
C. 20 477 D. 13 464

39. Nekesa uses $\frac{1}{2}$ of his shamba for grazing, $\frac{1}{3}$ of the remainder is planted with maize. The rest of Nekesa's shamba has equal portions for cabbage, potatoes and beans. If the area planted with beans is $\frac{1}{3}$ ha, how big is Nekesa's shamba?
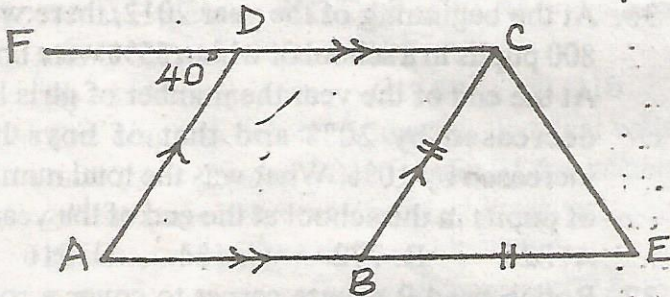
A. 3 ha   B. 6 ha

C. 9 ha   D. 18 ha

40. The perimeter of a rectangle is three quarters of its area. If the length of the rectangle is 8 cm, what is the area of the rectangle in square centimeters?

A. 24   B. 48

C. 32   D. 64

41. A motorist took 2 hours 15 minutes to drive from his home to Nairobi at an average speed of 20 m/s. He drove back home at an average speed of 25 m/s. How much time did he take to drive from his home to Nairobi and back?

A. 1 h 48 min

B. 4h 3 min

C. 3 h 14 min

D. 4 h 48 min

42. The figure below shows a parallelogram ABCD and a triangle BCE. ABE and FDC are straight lines. Angle ADF = 40° and BC = BE. What is the size of angle DCE?

A. 70°   B. 110°

C. 120°   D. 140°

43. In a meeting there were 800 people. The ratio of men to women was 3:5. Later as the meeting progressed 20 more men joined the meeting while 20 women left the meeting. What was the new ratio of men to women in the meeting?

A. 3:2   B. 8:13

C. 2:3   D. 7:12

44. A rectangular tank whose base is 1.5 m by 50 cm is to be filled with water using 50 litre containers. How many such containers will be required to fill the tank to a height on 1 metre?

A. 1.5   B. 15

C. 150   D. 1500

45. What is the value of y in the inequalities below?

$$\frac{2(y-6)}{5} > \frac{9}{10}$$

A. $y < 8\frac{1}{4}$ B. $y > 8$

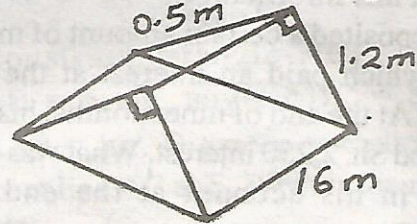C. $y < 8$ D. $y > 8\frac{1}{4}$

46. The school clock gains 1 second every two hours. If it is set right on Saturday at 4.00 p.m, what time will it show on the following Thursday at 4.00 p.m?

A. 4.01 p.m   B. 3.58 p.m

C. 3.00 p.m   D. 3.50 p.m

47. A newspaper vendor has 45 bank coins with a total value of Sh. 750. If all the coins are either Sh. 10 or Sh. 20, how many Sh. 20 coins does he have?

A. 15   B. 25

C. 30   D. 45

48. Find the surface area of the figure below.

A. 48.6 m²   B. 10.2 m²

C. 48.3 m²   D. 9.6 m²

49. Construct triangle ABC in which AB = 4 cm, BC = 5.5 cm and angle ABC = 120°. Draw a circle whose circumference touches the edges of the triangle. What is the measure of its diameter?

A. 1.3 cm   B. 2.2 cm

C. 3.0 cm   D. 1.7 cm

50. What is the next pattern?