STANDARD EIGHT YEAR 2016

END-TERM 2,

MATHEMATICS PAPER
1HR-40MINS

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MATHEMATICS TIME: 1HR – 40MINS

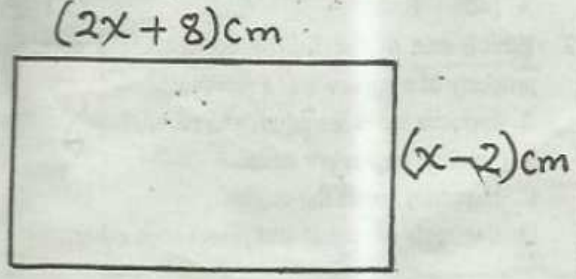
READ THE INSTRUCTIONS CAREFULLY

HOW TO USE THE ANSWER SHEET

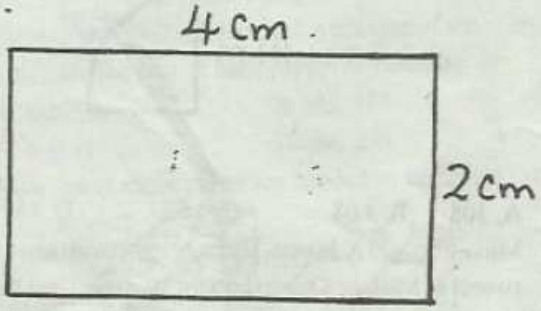
1. You have been given this question booklet and a separate **ANSWER SHEET**. The question booklet contains 50 questions.
2. Do any necessary rough work in this booklet.
3. Use only an ordinary pencil.

1. YOUR NAME **2. NAME OF YOUR SCHOOL** **3. YOUR INDEX NUMBER**

1. Write fifteen million three hundred and twenty one thousand and twenty four thousandths.
   A. 15000321.24 B. 15321000.024
   C. 15321000.24 D. 15000321.024
2. Work out **0.48 ÷ 2.3** and round off your answer to one decimal place.
   A. 0.22 B. 0.2 C. 2.0 D. 0.3
3. Work out: $\sqrt{14^{1}/_{16}} + 1^{2}$
   A. $3^{3}/_{4}$ B. $4^{3}/_{4}$
   C. $4^{1}/_{4}$ D. $5^{3}/_{4}$
4. What is the product of the next two numbers in the series below?
   1, 1, 2, 3, 5, 8, 13, _____
   A. 104 B. 714
   C. 660 D. 224
5. An aeroplane flies at a speed of 720km/h. What is its speed in metres per second?
   A. 2000m/s B. 20 m/s
   C. 12 m/s D. 200 m/s
6. The area of a trapezium is 250cm². If one of the parallel sides is 30cm and the distance between the two parallel sides is 10cm. Find the length of the other parallel side.
   A. 30cm B. 20cm C. 10cm D. 25cm
7. The perimeter of the rectangle below is 84cm. What is the area of the rectangle?



   A. 42cm² B. 32cm²
   C. 60cm² D. 320cm²
8. Nancy bought a tray of eggs at shs. 300. On the way home 6 eggs got broken and sold the rest at shs. 12. What was her percentage loss? (1 tray = 30 eggs)
   A. 20% B. 4% C. 8% D. 12%
9. A man weighs 80kg. He fell ill and started losing his mass by 10% per month. What was his mass at the end of the second month?
   A. 64kg B. 72kg
   C. 64.8kg D. 60kg
10. A certain piece of work requires 16 men to be completed in 5 days. How many more men are required to finish the work in 4 days?
    A. 20 B. 4 C. 10 D. 5
11. The diagram below represents Mr. Mwaura's farm drawn to scale 1 : 20000.



    Find the area of the farm in hectares?
    A. 16ha B. 8ha C. 24ha D. 32ha
12. The cash price of an item is shs. 20000. Kiarie bought it on hire purchase price paying a 50% of the cash price as deposit and equal instalments of shs. 1000 for $1^{1}/_{2}$ years. John bought the same item on cash and was allowed a $4^{1}/_{2}\%$ discount. How much more did Kiarie buy than John?

A. shs. 11000 B. shs. 8000
C. shs. 8900 D. shs. 9100

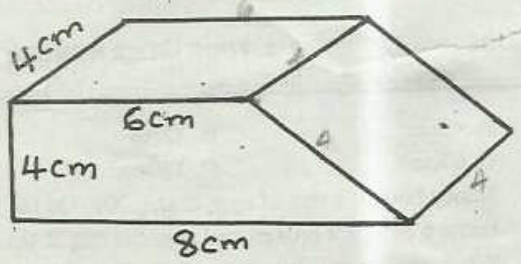
13. What is the total value of digit 6 in the product of **52.14** and **3.4**?
A. six hundredths B. six thousandths
C. sixth D. tenth

14. What is the value of;-

$$\frac{15.46 - 9.08}{1.1 \times 0.4}$$

A. 0.145 B. 1.45
C. 14.5 D. 145

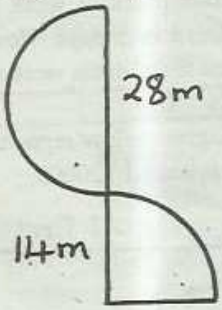
15. Find the volume of the solid shown below.



A. $96cm^3$ B. $64cm^3$
C. $112cm^3$ D. $128cm^3$

16. Work out: $16\frac{1}{2} \div 4\frac{1}{8} + \frac{7}{9}$ of $2\frac{1}{4}$
A. $5\frac{3}{4}$ B. $2\frac{1}{4}$
C. $10\frac{3}{4}$ D. $4\frac{1}{4}$

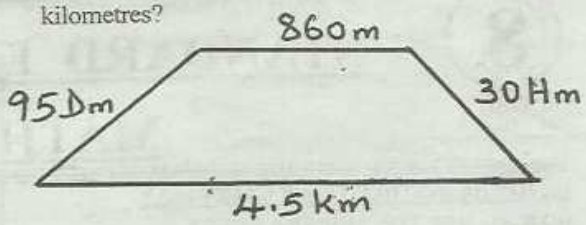
17. Mweko's plot is in the given shape. What is its area in ARES?



A. 308 B. 3.08 C. 4.62 D. 462

18. Miriam bought X sweets. Diana bought twice as many sweets as Miriam. Otieno bought 10 sweets less than what Miriam and Diana had bought. How many sweets did they buy altogether?
A. 6x + 10 B. 4x - 10
C. 6x - 10 D. 3x - 10

19. The diagram below shows the route followed by marathon athletes. What distance did each cover in kilometres?



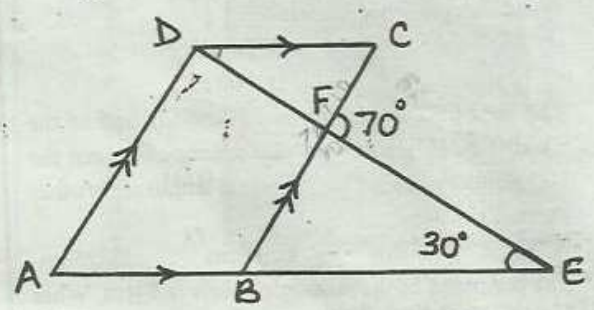
A. 931km B. 93.1km
C. 0.931km D. 9.31km

20. The table below shows the rates charged for sending money by money order.

Value of order Shs.	Ordinary commission	Telegraphic commission
Less than 500	42	57
501 - 1000	114	126
1001 - 3000	174	183
3001 - 5000	209	217
5001 - 10000	295	299
10001 - 20000	441	483
20001 - 30000	617	636
30001 - 35000	657	662

Odiba sent shs. 50000 by three telegraphic orders as follows;- shs. 20000, shs. 25000 and shs. 5000. How much money did he pay at the post office altogether?
A. shs. 51336 B. shs. 51267
C. shs. 1336 D. shs .1267

21. In the figure shown below ABCD is a parallelogram. Line ABE is a straight line. Angle BEF = 30° and angle EFC is 70°. What is the size of angle EDA?



A. 140° B. 40° C. 30° D. 110°

22. Which one of the following is NOT a common property of a square and a rectangle?
A. opposite sides are equal and parallel
B. opposite angles are equal
C. diagonals bisect the angles
D. diagonals are equal and bisect each other

23. Evaluate: $\frac{2t^2 - ts}{tu}$

When $u = \frac{1}{2}s$, $s = t - 1$ and $t = 5$

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

24. The charges of sending a telegram are shs. 10 for the first ten words or less. Each extra word costs 80cts and 10% tax of the total is added. The total payment is then rounded off to the nearest 5 cents.

THOMAS MAGERE BOX 600 MACHAKOS PICK YOUR COUSIN BEN BUS STATION THIRD DECEMBER AT NOON ABUYA.

What is the cost of sending the above telegram?

A. shs. 15.60 B. shs. 15.65

C. shs. 17.15 D. shs. 17.20

25. Mr. Ochuodho borrowed shs. 8000 for six months from Equity Bank. After that period he paid back shs. 8420. At what simple interest rate per annum was he charged?

A. 11% B. $10\frac{1}{2}\%$ C. 8% D. 9%

26. A watch gains 10 seconds every hour. If its is set right on Tuesday at 12.48 p.m. What time will it show the following Tuesday at 12.48 a.m.

A. 1.14p.m. B. 1.14 a.m.

C. 12.22 p.m. D. 12.22 a.m.

27. In an education meeting 0.2 of the attendance were boys and 0.25 were girls and 0.4 of the rest were women. If a total of 1000 people attended the meeting, what was the number of men in attendance?

A. 250 B. 200 C. 330 D. 220

28. One tap can fill a drum in $3\frac{1}{2}$ minutes. A discharge tap empties the same drum in $4\frac{2}{3}$ minutes. If the drum is empty and both taps are opened at the same time, how long will it take for the drum to be completely full?

A. 1 minute B. $\frac{1}{14}$ minute

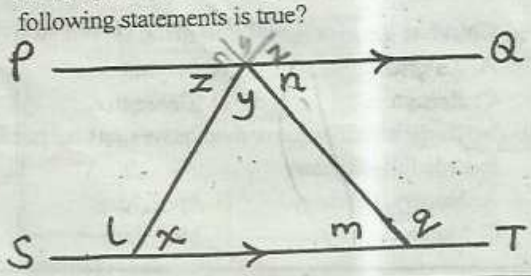
C. 2 minutes D. 14 minutes

29. Solve the equation;-

$\frac{x+1}{2} + \frac{x+2}{3} = 3$

A. $2\frac{1}{2}$ B. $2\frac{1}{5}$ C. 5 D. 11

30. In the figure below PQ is parallel to ST. Which of the following statements is true?



A. $n + m = 180°$ B. $z + x + y = 180°$

C. $l + y + m = 180°$ D. $x + q - z + m = 180°$

31. John takes 20 minutes to at a speed of 18km/h to cycle from Kibera to town where he works. One day he was late to leave home and cycled at a speed of 24km/h. How long did he take to get to work that morning?

A. $\frac{1}{4}$hr B. $\frac{3}{10}$hr C. $\frac{1}{3}$hr D. $\frac{1}{10}$hr

32. Rearrange the digits 1,0,3,4,8,2 to make the largest number possible and also make the smallest number possible. Find their difference.

A. 843210 B. 830862

C. 102348 D. 740862

33. Using a ruler and a compass only, construct triangle PQR such that QP = 7cm QR = 6cm and angle PQR = 120°. Construct a circle that touches the vertices of the triangle. Measure its radius.

A. 7.1cm B. 6.5cm C. 6.0cm D. 14.2cm

34. Owuor's scores in three exams were as follows;-

Marks	2	5	3
Out of	3	8	5

Find his average score.

A. $\frac{227}{360}$ B. $1\frac{47}{120}$ C. $\frac{47}{40}$ D. $3\frac{1}{120}$

35. The temperature of the water rose from 10°C at the rate of 6°c/min. What was the temperature of the water after 17 minutes 40 seconds?

A. 106°C B. 96°C C. 116°C D. 60°C

36. A lady bought the following items from a shop.

3 bars of soap @ shs. 85

$2\frac{1}{2}$kg of rice @ shs. 72

Two, 2kg packets of unga for shs. 184

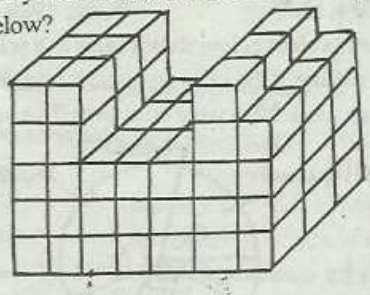
3 packets of biscuits

If she paid for the items using shs. 500 note and two notes of shs. 200 and received a balance of shs. 170. Calculate the cost of each packet of biscuits.

A. shs. 37 B. shs. 31

C. shs. 111 D. shs. 27

37. How many more cubes are needed to complete the stack below?



A. 84 B. 16 C. 21 D. 15

38. Construct triangle XYZ in which line XY = 8cm angle YXZ = 105° and angle XZY = 40°. Drop a perpendicular from point X to meet line YZ at N. What is the measure of line XN?
A. 4.5cm B. 5.3cm C. 6cm D. 4cm

39. Which one of the following expressions is the simplest form of:-

$$\frac{3(6n+4)+6(n-2)}{4(3n+3)}$$

A. $\frac{24n+2}{12n+3}$ B. $\frac{2n+2}{n+1}$
C. $\frac{2n}{n}$ D. $\frac{2n}{n+1}$

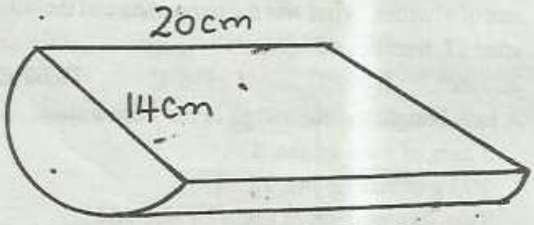
40. The total surface area of a pipe is 4400cm². Calculate its volume if its length is 50cm.
A. 3.08m³ B. 3080cm³
C. 308cm³ D. 30800cm³

41. Solve the inequality

$$\frac{2x-4}{8} > 4$$

A. $x > 14$ B. $x < 14$
C. $x > 18$ D. $x < 18$

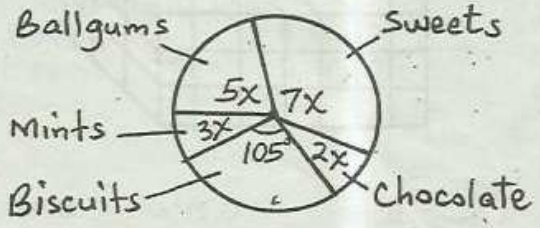
42. The block of wood represented below was painted allover. What was the total surface area painted?



A. 874cm² B. 280cm²
C. 1314cm² D. 720cm²

43. Peter deposited shs. 18000 in a bank which paid a compound interest at the rate of 10% per annum. If he withdrew all the interest that had been earned during the first two years, how much did he withdraw?
A. shs. 3780 B. shs. 3600
C. shs. 1800 D. shs. 1980

44. The pie chart below shows sales in a school canteen in one day. If the sales on biscuits was shs. 420, how much more sales were on sweets than on biscuits?

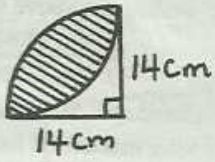


A: shs. 00 B. shs. 60
C. shs. 15 D. shs. 105

45. In a school of 600 pupils the ratio of boys to girls is 3 : 2. In one day $\frac{1}{3}$ of the boys and $\frac{1}{4}$ of girls were absent. How many pupils were present on that day?
A. 840 B. 360 C. 420 D. 430

46. A tank was a quarter full of water. Twenty eight litres of water were added and it became three fifths full. What is the capacity of the tank?
A. 80L B. 56L C. $186\frac{2}{3}$L D. 112L

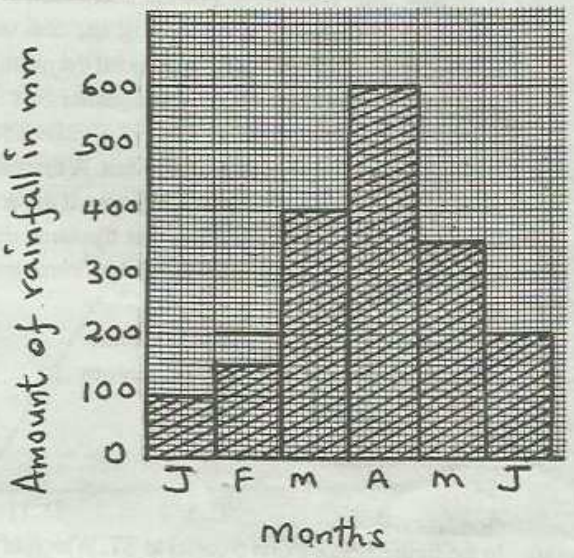
47. Find the area of the shaded part in the diagram below.



A. 56 B. 112cm² C. 98cm² D. 28cm²

48. The area of a square piece of land is 0.3025ha. Posts were put at a spacing of 5 metres. If each post was bought at shs. 350, how much was spend on fencing?
A. shs. 19250 B. shs. 162200
C. shs. 14525 D. shs. 15400

The graph below shows the amount of rainfall recorded in the first six months of the year



49. Calculate the average rainfall in the six months.
A. 2100mm B. 350mm
C. 300mm D. 1800mm

50. In which two consecutive months was the total rainfall recorded the highest?
A. January, February B. April, May
C. March, April D. May, June