

ACADEMIC BREAKTHROUGH SERIES

SASON
001

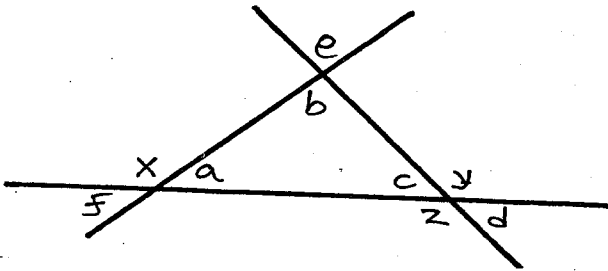
STD. 8 YEAR - 2021

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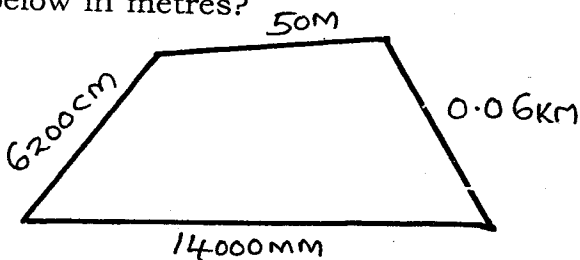
MATHEMATICS

Time: 2 Hrs

- What is **one million and ninety six** subtracted from **two million and four**?
A. 3000100 B. 999908
C. 1000096 D. 2000004
- What is the place value of digit **9** in the product of **45.07** and **1.56**?
A. Thousands
B. Hundredths
C. Thousandths
D. Tens
- What is the least number that can be added to **31172** to make it divisible by **11**?
A. 2 B. 7
C. 9 D. 11
- Which of the following is **false**?



- A. $e + a = y$ B. $d + b = x$
C. $y - b = f$ D. $x - b = a$
- What is the distance round the figure below in metres?



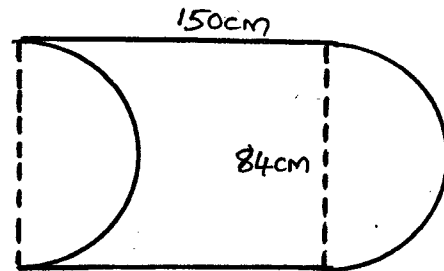
- A. 186 m B. 13650 m
C. 6264 m D. 2470 m
- Kyangweso paid sh. **2090** after being allowed a discount of sh. **110**. What was the percentage discount?
A. 5% B. $5\frac{5}{21}\%$
C. 10% D. 11%

- 60%** if the passengers in a matatu were women. If the number of children in the matatu were **10** and the matatu carried a total of **40** passengers, how many men were there in the matatu?
A. 24 B. 34
C. 6 D. 60
- What is the product of the edges, vertices and faces of an open cuboid?
A. 480 B. 576
C. 320 D. 96
- What is the area of the curved surface of a cylinder with a radius of **10** cm and a height of **14** cm?
A. 1508 cm^2 B. 1194 cm^2
C. 880 cm^2 D. 440 cm^2
- Find the value of: 1.8×0.35
 0.3×0.07

- A. 0.3 B. 30
C. 3 D. 13

- Using a ruler and a pair of compasses, construct triangle **XYZ** such that **XY = 5** cm, **YZ = 6** cm and $\angle XYZ = 30^\circ$. Measure **XZ**.
A. 5 cm B. 3 cm
C. 4 cm D. 6 cm

- The diagram below represents a plot with semi-circular ends. What is the perimeter? (Take $\pi = \frac{22}{7}$)

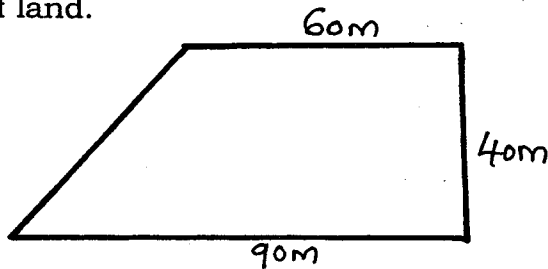


- A. 164 cm B. 264 cm
C. 564 cm D. 300 cm

13. What is the product of the L.C.M of 6 and 5 and the G.C.D of 24 and 30?

- A. 120 B. 36
C. 24 D. 180

14. The figure below represents Kalenga's plot of land.



Calculate its area in hectares.

- A. 30 B. 3000
C. 0.03 D. 0.3

15. A bicycle wheel whose radius is 30 cm covered a distance in 700 revolutions. How many kilometres did it cover?

(Take $\pi = \frac{22}{7}$)

- A. 0.132km B. 132km
C. 1.32km D. 13.2km

16. What is the value of:-

$$\frac{2}{3} + \frac{1}{2} \text{ of } (\frac{1}{2} - \frac{1}{6}) + \frac{2}{3} + \frac{1}{4} ?$$

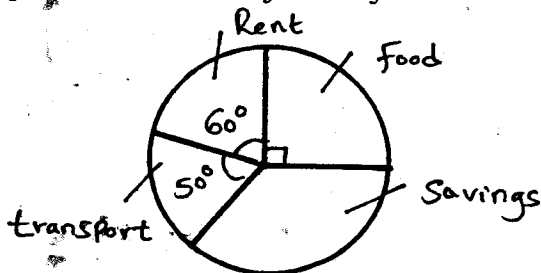
- A. $1\frac{5}{12}$ B. $1\frac{1}{6}$
C. $\frac{5}{6}$ D. $\frac{83}{108}$

17. What is the value of x in: $3x - 4 + \frac{1}{2} = 3$?

2

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

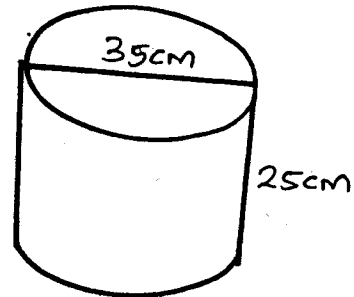
18. The pie chart below shows how Runya spend his monthly salary.



If he spends sh. 4500 on food, how much more does he save than pay rent?

- A. sh. 3000
B. sh. 8000
C. sh. 5000
D. sh. 4500

19. Find the surface area of the closed cylinder below. (Take $\pi = \frac{22}{7}$)



- A. 2750 cm² B. 2970 cm²
C. 1925 cm² D. 4675 cm²

20. A bus left Garissa at 1930 h and took 9 hours 45 minutes before reaching Mombasa. At what time did the bus arrive in Mombasa? (Answer in am/pm)

- A. 5.15 am B. 5.15 pm
C. 4.15 pm D. 4.15 am

21. A sales lady earns a salary of sh. 4800 per month. She also gets a commission of 10% on good she sells. In one month, she sold goods worth sh. 15,600. How much did she earn that month altogether?

- A. sh. 4800 B. sh. 1560
C. sh. 6360 D. sh. 5360.

22. On a map, the distance from Nairobi to Naivasha is 8 cm. What is the scale drawing if the actual distance is 32 km?

- A. 1 : 4000 B. 1 : 400000
C. 1 : 40000 D. 1 : 400

23. Madzayo walked $\frac{5}{7}$ of the total distance in a charity walk. If she covered 35 km, what was the total distance of the charity walk?

- A. 25 km B. 5 km
C. 42 km D. 49 km

24. What is 6.0947 rounded off to the nearest hundredth?

- A. 6.10 B. 6.09
C. 6.15 D. 6.095

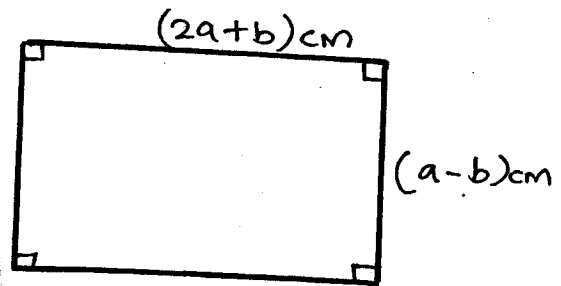
25. Six men can do a piece of work in 8 hours. How long will it take four men to complete the same work?

- A. 12 hrs B. 6 hrs
C. 4 hrs D. 48 hrs

26. The difference between two numbers is **9**. If their sum is **45**, find the smaller number?
 A. 27 B. 18
 C. 17 D. 28
27. What is the difference between the largest and the smallest possible number formed from the following digits: **0, 3, 8, 5, 9, 4**?
 A. 950841 B. 680841
 C. 644751 D. 644832
28. Three bells ring at intervals of 12, 15 and 18 minutes respectively. If they rung together at 8.30 am for the first time, when will the ring together again for the third time?
 A. 2.30 pm B. 8.33 am
 C. 8.39 am D. 8.36 am
29. Simplify: **$16 - 125 \div 25 + 9 \times 7$**
 A. 68 B. 22
 C. 74 D. $78\frac{1}{5}$
30. One thousand guests were served with juice in **750** ml containers. How many litres of juice were consumed?
 A. 7500L B. 75L
 C. 750L D. 750000L
31. Solve and round off the answer to the nearest hundredths.

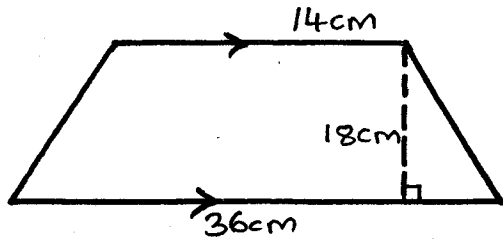
$$\begin{array}{r} 0.91 \times 0.37 \\ \hline 0.7 \end{array}$$

 A. 48.00
 B. 0.481
 C. 0.48
 D. 0.480
32. What is the value of:
 $12\frac{1}{4} - 3\frac{1}{8} \times 2\frac{2}{3} + \frac{3}{4}$ of $3\frac{2}{5}$?
 A. $10\frac{53}{60}$
 B. $6\frac{7}{15}$
 C. $1\frac{11}{30}$
 D. $2\frac{11}{20}$
33. What is the next numbers in the sequence: $\frac{1}{3}, \frac{1}{4}, \frac{1}{7}, \frac{1}{11}, \frac{1}{18}, \text{---}$
 A. $\frac{1}{23}$
 B. $\frac{1}{47}$
 C. $\frac{2}{29}$
 D. $\frac{1}{29}$
34. Draw a triangle **ABC** in which **AB = 6.4** cm, **CB = 7** cm and **AC = 5.3** cm. What is the measure of angle **ABC**?
 A. 46°
 B. 147°
 C. 53°
 D. 133°
35. A rectangular container holds 10 litres of water when full. The length of the container is **50** cm and the width is **16** cm. What is the height of the container in centimetres?
 A. 125cm B. 12.5cm
 C. 0.125cm D. 12.05cm
36. A cylinder has a volume of **1540** cm^3 . If the diameter is **14** cm, find the height of the cylinder in centimeters? (Take $\pi = \frac{22}{7}$)
 A. 110cm B. 35cm
 C. 10cm D. 5cm
37. Njoki is now **7** years older than Ruth. If Ruth's age is represented by **m**. What will be their total age after **15** years?
 A. $2m + 37$ B. $2m + 27$
 C. $2m + 23$ D. $2m + 22$
38. Find the perimeter of the figure below.



- A. $6a$ B. $6a - b$
 C. $6a - 2b$ D. $6a + 4b$
39. In the year 2007, February 26th was a Monday. What day was the 8th of April of the same year?
 A. Friday B. Sunday
 C. Thursday D. Wednesday
40. What is $2\frac{1}{3}\%$ written as a ration?
 A. 7 : 3 B. 3 : 7
 C. 7 : 300 D. 3 : 700

41. Calculate the area of the following figure.



- A. 9072 cm^2 B. 648 cm^2
 C. 450 cm^2 D. 378 cm^2
42. Sammy paid sh. **5200** cash for an item. Riziki bought the same item by paying a deposit of sh. **3000** and **8** equal monthly installments of sh. **400**. How much less did Sumu pay?
- A. sh. 2500 B. sh. 800
 C. sh. 5000 D. sh. 1000
43. Two hundred and two trees were planted on both sides of a path at an interval of **8** m. Find the length of the path?
- A. 1600 m B. 1616 m
 C. 1608 m D. 800 m
44. Construct triangle **ABC** in which **AB** is **5** cm and **AC = BC = 6** cm. Draw a circle that touches its vertices. What is the radius of the circle?
- A. 3.3 cm B. 4 cm
 C. 2 cm D. 3.5 cm
45. Mwakuni bought the following items from a shop:-
2 packets of tea @ sh. 17.50
2 kg of sugar for sh. 150
1 bar of soap at sh. 75
 $1\frac{1}{2}$ kg of rice @ sh. 30 per $\frac{1}{2}$ kg
 What balance did he get if he paid the bill using 2- two hundred shilling notes?
- A. sh. 65 B. sh. 50
 C. sh. 335 D. sh. 485
46. The table below shows distance in kilometres from Nairobi to Kisumu.

Nairobi				
120	Naivasha			
240	160	Gilgil		
300	200	150	Nakuru	
450	300	200	120	Londian
500	400	300	250	100
				Kericho

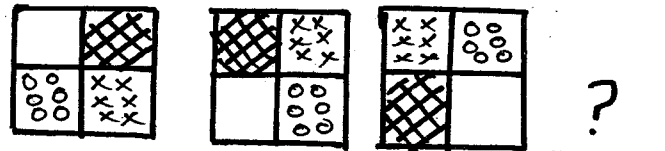
Cherono traveled from Nairobi to Kericho via Nakuru. Akinyi travelled directly from Nairobi to Kericho. How many more kilometres did Cherono cover than Akinyi?

- A. 250 km B. 500 km
 C. 50 km D. 370 km
47. The following are examples of Pythagoras family. Which one is not?
- A. 9, 10, 11 B. 8, 15, 17
 C. 5, 12, 13 D. 7, 24, 25
48. The following table shows the postal rates for sending a money order.

Value of order in sh.	Commission	
	sh	cts
Not exceeding 500	42	00
501 - 1000	112	00
1001 - 3000	168	00
3001 - 5000	206	00
5001 - 10000	285	00
10001 - 20000	420	00

Chonga sent three money orders for sh. **10500**, another one for sh. **3000** and one for sh. **4800**. How much commission was he charged?

- A. sh. 486 B. sh. 794
 C. sh. 530 D. sh. 659
49. Twenty crates containing soda weigh a total of **390** kg. An empty crate weigh **1.8** kg, What is the total mass of sodas in each crate?
- A. 16.5 kg B. 17.7 kg
 C. 19.5 kg D. 21.3 kg
50. Study the pattern below.



Which of the following is the next shape?

