

ACHIEVERS FOCUS EXAMINATION SERIES



STANDARD 8 – 2021 MATHEMATICS

AF2005

Time: 2 hours

1. What is 200200.002 when written in words?
 A. Two hundred thousand two hundred and two thousandths
 B. Two hundred two thousand and two thousandths
 C. Two hundred thousand two hundred and two hundredths
 D. Two hundred thousand two hundred and two tenths

2. Work out $\sqrt{625}$
 A. 25
 B. 5
 C. 2.5
 D. 0.5

3. What is the value of 8 in the number 52.483?
 A. 00.08
 B. 0.080
 C. 0.8
 D. $\frac{8}{100}$

4. Which one of the percentages given below represents the ratio 5:7?
 A. $71\frac{3}{7}\%$
 B. $41\frac{2}{3}\%$
 C. $58\frac{1}{3}\%$
 D. 140%

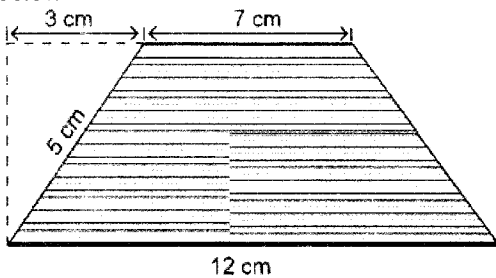
5. A vendor sold milk from a certain date to 5th June of the same year. If he sold for 39 days altogether. On what date did he start selling the milk?
 A. 29th April
 B. 27th April
 C. 30th April
 D. 28th April

6. What is the value of:

$$\frac{549 - 243 \div 27}{27}$$

 A. 540
 B. $\frac{34}{51}$
 C. $2\frac{2}{3}$
 D. 20

7. What is the area of the shaded part in the figure below?



- A. 38 cm^2
 B. 44 cm^2
 C. 30 cm^2
 D. 29 cm^2

8. What is 7.14958 written correct to three decimal places?
 A. 7.14
 B. 7.149
 C. 7.15
 D. 7.150

9. Which of the following groups of fractions is arranged in ascending order?
 A. $\frac{3}{8}, \frac{11}{32}, \frac{5}{16}, \frac{13}{48}$
 B. $\frac{13}{48}, \frac{11}{32}, \frac{5}{16}, \frac{3}{8}$
 C. $\frac{3}{8}, \frac{5}{16}, \frac{11}{32}, \frac{13}{48}$
 D. $\frac{13}{48}, \frac{3}{8}, \frac{5}{16}, \frac{11}{32}$

10. What is the difference between the H.C.F of the numbers 15, 20 and 30?
 A. 5
 B. 65
 C. 60
 D. 55

11. Construct triangle QRS in which QR=6cm, $\angle R = 70^\circ$ and $\angle S = 50^\circ$. Bisect line RS and angle RSQ. Let the two bisectors meet at point T. What is the size of line ST?
 A. 1.7 cm
 B. 2.5 cm
 C. 3.5 cm
 D. 3 cm

12. In a bus $\frac{1}{4}$ of the passengers were men, $\frac{2}{9}$ of the remainder were children and the rest were women. There were 6 more men than children in the bus. How many women passengers were in the bus?
 A. 72
 B. 30
 C. 42
 D. 18

13. What is the value of:

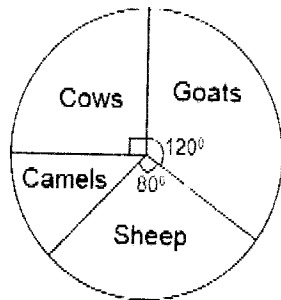
$$\frac{3}{4} \text{ of } 5\frac{1}{3} + 6\frac{2}{5} \div 1\frac{1}{3} - 1\frac{1}{5}$$

 A. $6\frac{3}{5}$
 B. $7\frac{3}{5}$
 C. $6\frac{7}{10}$
 D. $11\frac{1}{3}$

14. Work out half of $7.016 \div 0.04$
 A. 175.4
 B. 8.77
 C. 1.754
 D. 87.7

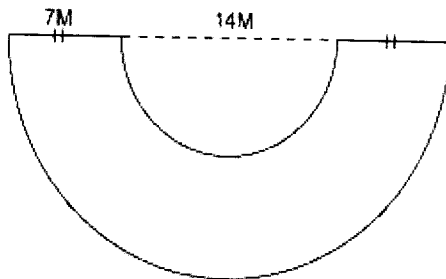
15. Sera bought 60 metres of cloth material. She used half of this material to make dresses each requiring 3 metres of material and the rest to make skirts each requiring $1\frac{1}{2}$ metres of material. She sold each dress at sh. 450 and each skirt at sh. 270. How much money was left after paying sh. 1600 for rent?
 A. Sh. 2900
 B. Sh. 8300
 C. Sh. 3170
 D. Sh. 9900

16. The pie chart below shows the number of animals in a farm.



If there were 900 more goats than cows how many camels and sheep were there altogether?

- A. 4800
B. 4500
C. 300
D. 2400
17. Calculate the perimeter of the grazing field below.



- A. 66 m
B. 73 m
C. 80 m
D. 94 m
18. Kipkoech left town M at 10.15 a.m for town N travelling at a speed of 90km/hr. Chirchir left town N at 11.00a.m for town M travelling at a speed of 120km/hr. The two met at a place 180km away from town M. What was the distance between the two towns?
- A. 150 km
B. 276 km
C. 30 km
D. 330 km

19. What is the value of x in the equation:

$$\frac{2}{3}(x + 4) + \frac{1}{2} = 4$$

- A. $1\frac{1}{4}$
B. $2\frac{3}{4}$
C. $3\frac{1}{4}$
D. $12\frac{3}{4}$
20. A lorry whose mass is 4.25 tonnes weighed 9.65 tonnes when loaded with 90 bags of wheat flour. What was the mass of each bag of wheat in kilograms?
- A. 90 kg
B. 60 kg
C. 72 kg
D. 100 kg
21. Four schools received the following number of books from the county government 32254, 32245, 32542, 32524. Kimugul primary school received the most books while Kipsogori School received the least books. What is the difference in the number of books received by the two schools?
- A. 98
B. 107
C. 192
D. 297

22. The area of a trapezium is 336cm². The distance between the two parallel sides is 24cm. If one of the parallel sides is 12cm, what is the difference between the two parallel sides?

- A. 20 cm
B. 8 cm
C. 18 cm
D. 12 cm

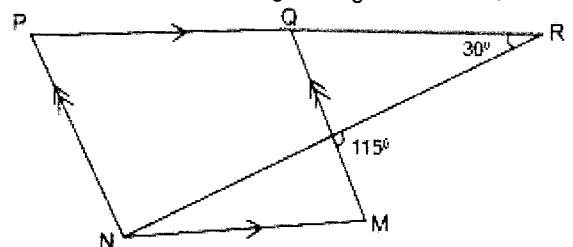
23. Work out: $\frac{1.21 \times 6.5 \times 1.62}{1.3 \times 2.2 \times 4.5}$

- A. 0.99
B. 9.9
C. 9.09
D. 0.099

24. Ethan sold goods worth sh. 180,000. His commission was $12\frac{1}{2}\%$ on the value of goods sold above sh. 80,000. In that month he earned sh.20,000. Calculate his basic pay?

- A. Sh. 12,500
B. Sh. 7500
C. Sh. 5500
D. Sh. 6500

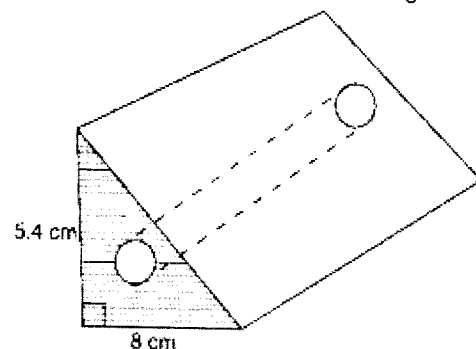
25. In the figure below, MNPQ is a parallelogram. Lines PQR and NSR are straight. Angle MSR=115°



What is the size of angle RNP?

- A. 115°
B. 95°
C. 65°
D. 85°

26. The diagram below represents a solid in the form of a wedge with a circular hole of diameter 3.5cm. The solid is 12cm long, 8cm wide and 5.4cm high.



What is the volume of the solid?

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

- A. 143.7 cm³
B. 259.2 cm³
C. 374.7 cm³
D. 115.5 cm³

27. A farmer planted x avocado trees. He planted 8 more apple trees than avocado trees. The number of avocado trees was 5 more than the number of mango trees planted. Which one of the following expression shows the total number of trees planted?

- A. 3x + 8
B. 3x + 13
C. 3x + 10
D. 3x + 3

28. A string 264cm long was rounded round the curved surface of a cylinder 3 times. What is the diameter of the cylinder?

- A. 14 cm C. 21 cm
B. 35 cm D. 28 cm

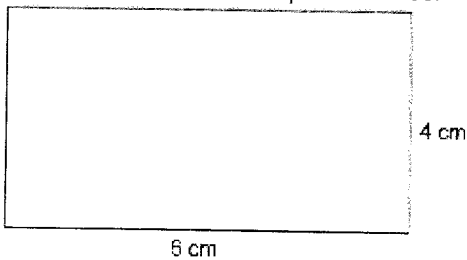
29. Five teachers can mark a number of examination scripts in 6 hours. If the number of teachers is decreased by 2, how many more hours would it take the teachers working at the same rate to mark the scripts?

- A. 4 C. 9
B. 10 D. 16

30. Alice had sh. 2000 to do shopping. She spent 0.29 of the money on dry food stuffs and 0.21 on vegetables. She spent 0.3 of the remainder on transport and the rest on her make up. How much money did she spend on her make up?

- A. Sh. 850 C. Sh. 700
B. Sh. 500 D. Sh. 400

31. The scale drawing on the map is 1:20,000 what is the actual area of the map in hectares.



- A. 9600 ha C. 0.96 ha
B. 9.6 ha D. 96 ha

32. A train left town X at 1755 hrs and arrived at town Y at 0815 hrs. How long did it take?

- A. 9 hours 40 minutes
B. 7 hours 20 minutes
C. 6 hours 40 minutes
D. 14 hours 20 minutes

33. A group of ten pupils accompanied by their teacher on a trip took lunch in a restaurant which offered food prices as shown in the table below.

	Chapati	Ugali	Mchele
Dengu	Sh. 120	Sh. 100	Sh. 110
Kuku	Sh. 250	Sh. 210	Sh. 230
Nyama	Sh. 180	Sh. 150	Sh. 170

3 pupils each took chapati with kuku;

2 pupils each took mchele with nyama;

2 pupils each took ugali with dengu;

The rest of the pupils and the teacher each took ugali with nyama.

The teacher paid for his lunch and that of all the pupils. How much money would the teacher have saved if they had all taken ugali with nyama?

- A. Sh. 1890 C. Sh. 390
B. Sh. 1440 D. Sh. 240

34. Construct triangle KLM in which KL=8cm, LM=9cm and angle MKL=60°. Bisect angle MKL and let the bisector meet the line LM at P. What is the size of angle KPL?

- A. 30° C. 70°
B. 80° D. 100°

35. The marked price of a refrigerator was sh.45,000 but a discount of 15% was allowed for cash payment. Kerubo bought the refrigerator on hire purchase terms by paying a deposit of sh. 12,000 followed by fourteen equal monthly instalments of sh. 2500 each. How much money would Kerubo have saved had she bought it for cash?

- A. Sh. 8750 C. Sh. 38250
B. Sh. 6750 D. Sh. 2000

36. What is the value of $\frac{p+2(n^2-q)}{np}$, when n=4, p=q+1 and q=n-2?

- A. $2\frac{3}{4}$ C. $2\frac{7}{12}$
B. $5\frac{5}{6}$ D. $1\frac{1}{4}$

37. The base area of cylindrical container is 154cm². If its height is the same as its diameter, what is the capacity of the container in litres? (take $\pi = \frac{22}{7}$)

- A. 2.156 L C. 1078000 L
B. 1.078 L D. 215600 L

38. The table below shows the travel timetable for a train from Mombasa to Nairobi.

	Arrival	Departure
Mombasa		2025h
Voi	2145h	2210h
Mtito Andei	0245h	0310h
Athi River	0830h	0840h
Nairobi	0950h	

How long is the train expected to take to travel from Voi to Athi River?

- A. 10 hours 20 minutes
B. 10 hours 30 minutes
C. 10 hours 55 minutes
D. 11 hours 20 minutes

39. The mean mass of 12 standard 8 boys is 36kg. If one star.Jard 7 boy is added to them, the mean mass increases by 1. What is the mass of the standard 7 boy?

- A. 49 kg C. 37 kg
B. 45 kg D. 54 kg

40. Achieng bought the following items from the supermarket.

3½ kg of rice @sh. 80

5 kg of fruits @sh. 45

2 kg packet of wheat flour for sh. 80

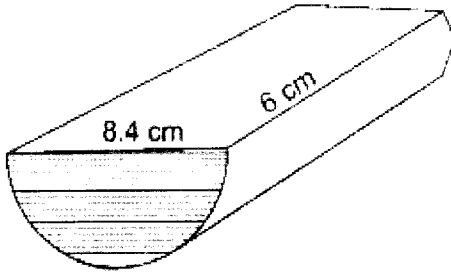
2 kg packet of sugar for sh. 102

2 pieces of soap @ sh. 42

How much was her total bill?

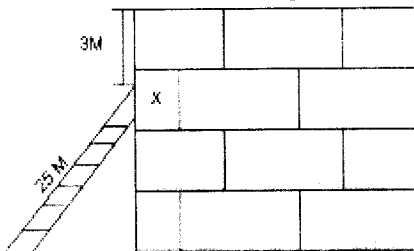
- A. Sh. 953 C. Sh. 671
B. Sh. 761 D. Sh. 771

41. The diagram below represents a half cylindrical solid diameter 8.4cm and a length of 6cm.



The surface of the solid was painted. What area in cm^2 was painted? (take $\pi = \frac{22}{7}$)

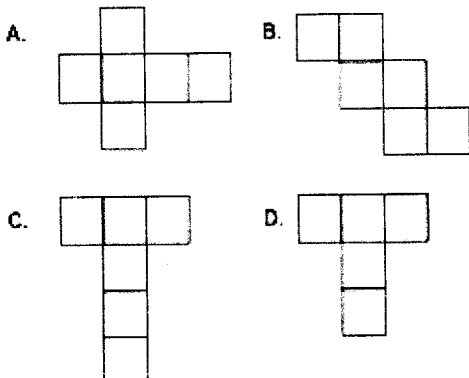
- A. 166.32 cm^2 C. 264.24 cm^2
 B. 134.64 cm^2 D. 185.04 cm^2
42. Hellen deposited sh. 10,000 in a bank account that pays compound interest at a rate of 5%p.a. After one year, he withdrew all the interest earned. How much money was in his account by the end of the second year?
- A. Sh. 10500 C. Sh. 13000
 B. Sh. 53025 D. Sh. 13500
43. A ladder 25m long was placed 15m away from the base of the wall. It leans on the wall at a point marked x. What is the height of the wall?



- A. 23m
 B. 19m
 C. 20m
 D. 32m

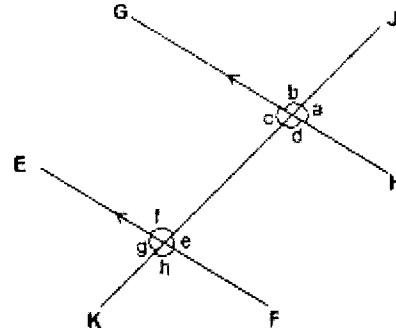
44. Which one of the following sets of measurements will not form a right-angled triangle when drawn?
- A. 5cm, 11cm, 13cm C. 10cm, 24cm, 26cm
 B. 24cm, 32cm, 40cm D. 9cm, 12cm, 15cm
45. The price of an article was decreased by 20% and later increased by 20%. If the original price before the decrease was sh.500, what is the new price of the article?
- A. Sh. 500 C. Sh. 480
 B. Sh. 400 D. Sh. 320

46. Three of the following show nets of closed cubes. Which one does not?



47. The length of the road to the chief's office is 0.28km from the main road. Trees are planted on both sides of the road. If the trees were planted 8 metres apart. How many trees were planted altogether?
- A. 132 B. 134 C. 72 D. 70

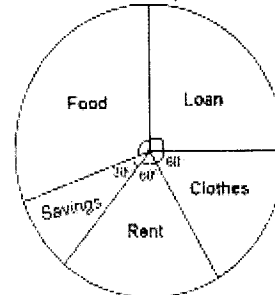
48. In the figure below, line EF is parallel to line GH. Line JK is a transversal.



Which one of the following pairs of equal angles is correctly matched with the reason why they are equal?

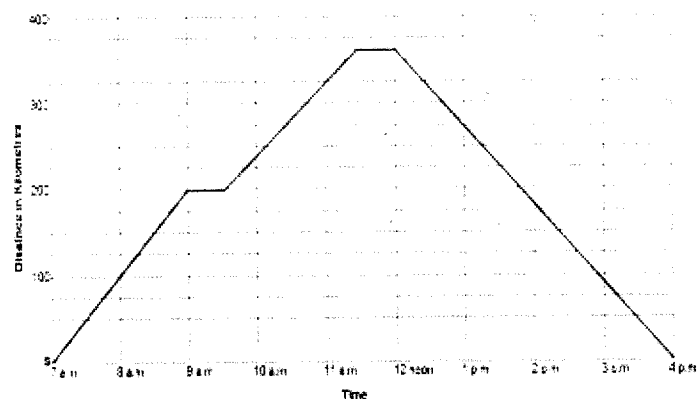
- A. d and h: alternate angles
 B. c and e: vertically opposite angles
 C. a and c: alternate angles
 D. b and f: corresponding angles

49. The pie chart below shows how Mr. Chirchir used his salary. How much more did she spend on loan than on rent if she spent sh.4000 on food?



- A. Sh. 5000
 B. Sh. 3000
 C. Sh. 2000
 D. Sh. 1000

50. The graph below shows Mutinda's journey from town S to town T and back on the way from S to T Mutinda stopped for 30 minutes for refreshments. He also stopped for 30 minutes in town T before driving straight back to town S.



What was Mutinda's average speed for the whole journey?

- A. 90km/hr C. 80km/hr
 B. 40km/hr D. 100km/hr