

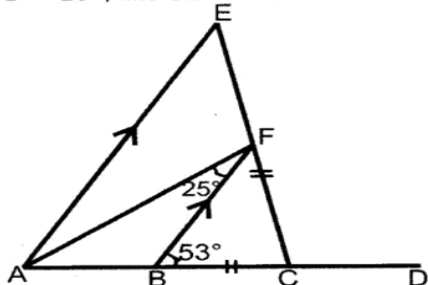
KCPE 2020 PRACTICE EXAMINATION

MODEL PAPER 1 MATHEMATICS

MATHEMATICS

MODEL PAPER 1

- Which one of the following is four hundred and three thousand and twelve hundredths?
A. 403,000.12 B. 403012
C. 403000.012 D. 403000
- What is the Greatest Common Division of 150 and 240?
A. 10 B. 5 C. 30 D. 1200
- What is the total value of digit 4 in the number 345671?
A. Ten Thousand
B. Hundred Thousand
C. Four Thousand
D. Forty Thousand
- What is the number 39.981 rounded off to one decimal place?
A. 39.9 B. 40.0 C. 40 D. 3998.1
- What is the square of 0.16?
A. 0.4 B. 256 C. 2.56 D. 0.0256
- What is the value of $\frac{9^2+9}{9} + 9$?
A. 17 B. 19 C. $3\frac{2}{3}$ D. $11\frac{2}{3}$
- What is the next number in the sequence below?
3, 10, 20, 33, _____
A. 46 B. 59 C. 49 D. 53
- What is the value of $\frac{0.748}{0.11 \times 0.005}$?
A. 0.136 B. 0.0136
C. 13.6 D. 1360
- What is the value of $\frac{1\frac{1}{3} \times 1\frac{1}{2} + 1}{1\frac{1}{3} + \frac{5}{6}}$?
A. $1\frac{5}{13}$ B. 3 C. $1\frac{7}{13}$ D. $1\frac{12}{13}$
- In the figure below ABCD is a straight line. Line AE is parallel to line BF, angle CBF = 53° and angle AFB = 25° , line CE = AC.

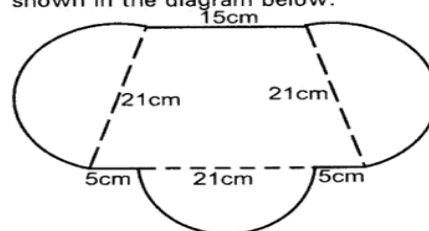


What is the size of angle FCD?

- A. 106° B. 99° C. 74° D. 100°
- Which of the following properties do not apply to a rectangle?
(i) Opposite sides are equal and parallel

- (ii) The diagonals bisect each other
 - (iii) Opposite angles are equal
 - (iv) The diagonals bisect each other at 90° .
 - (v) The co-interior angles add up to 180° .
 - (vi) The diagonals are not equal.
- A. iv and v B. iv and vi
C. ii and iv D. iii and vi

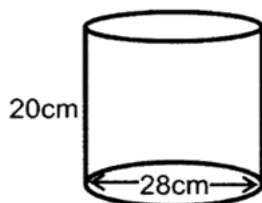
- Otieno went to a shop and bought the following items.
2 $\frac{3}{4}$ kg meat @ sh. 180.00
2 $\frac{1}{4}$ kg sugar @ sh. 72.00
Two – 2 kg tins of cooking fat @ sh. 240.00
If he had two sh. 1,000 notes, what change was given by the shopkeeper?
A. sh. 1,137 B. sh. 1,617
C. sh. 383 D. sh. 863
- How many 5dl packets can be obtained from a container which measures 1.8m by 1.0m by 0.6m when full?
A. 216 B. 2160
C. 21600 D. 216000
- The design was made by pupils of an art class as shown in the diagram below.



What is the perimeter of the design?

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

- A. 99 cm B. 187 cm C. 124 cm D. 114 cm
- The scale on a map is 1: 600. What length on the map would represent a distance of 30 metres?
A. 18 cm B. 2 cm C. 20 cm D. 5 cm
 - In a trapezium, the two parallel sides are 14 cm and 23 cm long. The perpendicular distance between the parallel sides is 12 cm. What is the area of the trapezium?
A. 444 cm^2 B. 222 cm^2
C. 1932 cm^2 D. 168 cm^2
 - A businessman spent sh. 1,440 to buy 12 pairs of socks and then sold them making a profit of 15%. For how much did he sell each pair of socks?
A. sh. 120 B. sh. 102 C. sh. 138 D. sh. 1656
 - A salesman earns a salary of sh. 10,400 per month. He also gets a 5% commission on goods sold above a total of sh. 100,000. In one month he sold goods worth sh. 200,000. How much money altogether did he earn that month?
A. sh. 5,000 B. sh. 10,000
C. sh. 15,400 D. sh. 20,400
 - Calculate the total surface area of the closed cylinder shown below. (Take $\pi = \frac{22}{7}$)



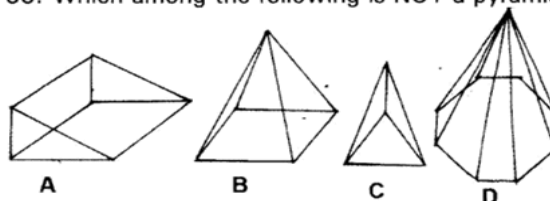
- A. 2376 cm^2 B. 1760 cm^2
C. 1232 cm^2 D. 2992 cm^2
20. A path that is 4 km long has trees planted on both sides at intervals of 4 metres apart. How many trees are there?
A. 1000 B. 1001 C. 2000 D. 2002
21. Construct a triangle X Y Z such that XY = 7 cm and YZ = 8cm angle XYZ = 70° . Inscribe the triangle. What is the radius of the circle?
A. 6 cm B. 4.6 cm C. 2.3 cm D. 9.2 cm
22. Wekhomba borrowed sh. 12,000 from a bank that charged simple interest at the rate of 15% per month. How much should he pay the bank at the end of one year?
A. sh. 1,800 B. sh. 13,800
C. sh. 21,600 D. sh. 33,600
23. What is the value of $\frac{22r^2 + 3p + t}{ry}$ where $r = 2$,
 $p = 2r$, $y = t + 4$ and $t = 6$?
A. $2\frac{1}{10}$ B. $7\frac{4}{5}$ C. $9\frac{3}{5}$ D. $4\frac{1}{5}$
24. What is the sum of the faces, vertices and edges of a triangular prism?
A. 20 B. 18 C. 26 D. 14
25. The length of a rectangular plot is 40 cm and the width is 30m. Each side of the plot is reduced by 10%. What is the decrease in the area of the plot?
A. 972 m^2 B. 2700 m^2
C. 1728 m^2 D. 228 m^2
26. What is the value of M in the equation $\frac{3}{5}(2m - 5) = 6m - 9$?
A. $1\frac{1}{4}$ B. $\frac{5}{6}$ C. $2\frac{1}{2}$ D. 0
27. After 30% of water leaked from a tank, 840 litres still remained. How many litres of water leaked?
A. 588 B. 252 C. 360 D. 1200
28. The table below represents the sales of meat in Kilograms by a butcher in five days. The sale for Friday is not shown.
- | Days | Mon | Tue | Wed | Thur | Fri |
|---------------------|-----|-----|-----|------|-----|
| Number of Kilograms | 43 | 52 | 38 | 45 | |
- One kilogram of meat was sold for sh. 200. The butcher got a total of sh. 40,000 for the sale of meat during the five days. How many more kilograms of meat did the butcher sell on Tuesday than on Friday?
- A. 22 kg B. 30 kg C. 52 kg D. 40 kg
29. Thirty workers can plough a piece of land in 18 days. How many more workers are required so as to plough the land in 12 days?
A. 45 B. 25 C. 15 D. 20
30. An aeroplane flew North 100 km before turning East and flew a further 240 km to town M. From town M, the plane flew directly back to where the journey began. What was the total distance covered by the plane?
A. 680 km B. 600 km
C. 340 km D. 260 km

31. The table below shows the postal rates for sending a money order.

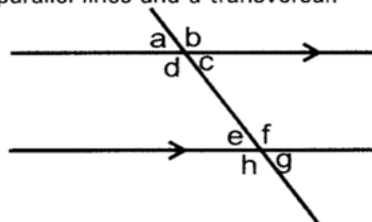
Value of order (in sh.)	Commission
Not exceeding 500	Sh. 52.50
501 – 1,000	Sh. 142.50
1001 – 3,000	Sh. 217.50
3001 – 5,000	Sh. 261.25
5001 – 10,000	Sh. 368.75
10001 – 20,000	Sh. 551.25
20001 – 30,000	Sh. 771.25

Medical fees for two pupils in the same hospital were sh. 8500 and sh. 10,800. The guardian bought one money order to pay the total amount of fees. How much more would he have spent had he bought two separate money orders for the fees?

- A. sh. 220 B. sh. 920
C. sh. 551.25 D. sh. 368.75
32. Juwa and Ambrose shared the profit from the sale of clothes in the ratio 5 : 8. If the profit was sh. 6,240, how much money did Juwa get?
A. sh. 3,900 B. sh. 2,400
C. sh. 3,840 D. sh. 1,440
33. Which among the following is NOT a pyramid?

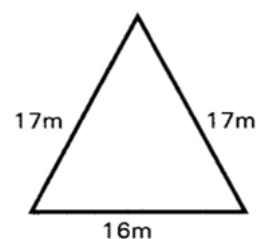


34. The figure below shows angles formed by a pair of parallel lines and a transversal.



In which group below, are each of the angles equal to f?

- A. b, a, d B. b, d, h
C. a, c, e D. h, a, d
35. In a certain farm, the number of goats and sheep was 5,084. The number of sheep and cows was 6,184. If the number of cows is 3410, what was the number of goats in that farm?
A. 2,774 B. 1,100
C. 2,310 D. 4,510
36. A bus took 7 hr 45 minutes to travel from Nairobi to Mombasa. It reached Mombasa at 0510h on Friday. At what time and day did it depart from Nairobi?
A. Thursday 9.35 am
B. Friday 9.35 am
C. Friday 9.35 pm
D. Thursday 9.35 pm.
37. The diagram below represents a flower garden.



What is the area of the flower garden in m²?

- A. 136m² B. 68 m² C. 120 m² D. 60m²

38. The hire purchase price of a generator was 15% more than the marked price. Alfred bought the generator on hire purchase terms. He paid a deposit of sh. 9,160 and 9 equal monthly instalments of sh. 2,560. What was the marked price of the cupboard?

- A. sh. 32,200 B. sh. 27,370
C. sh. 28,000 D. sh. 23,040

39. The Pie-chart below shows how Miriam spent her salary.



How much more did she spend on food than on medicine if she spent 3,600 on school fees?

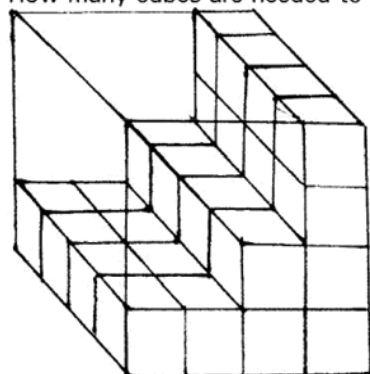
- A. sh. 4,950 B. sh. 4,050
C. sh. 900 D. sh. 1,350

40. There are t mangoes in a basket. The number of lemons in the basket is three times that of mangoes but eight more than that of oranges. The total number of mangoes, lemons and oranges in the basket was 27.

Which one of the following equations below can be used to find the number of mangoes that were in the basket?

- A. $7t + 8 = 27$ B. $3t - 2 = 27$
C. $3t + 14 = 27$ D. $7t - 8 = 27$

41. How many cubes are needed to fill the box below?

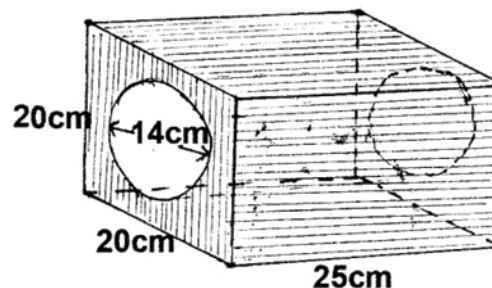


- A. 64 B. 32 C. 16 D. 20

42. Which one of the following expressions is the simplified form of $\frac{2y+5(3y+2t)-7y+5}{5y}$?

- A. $\frac{2y+3t}{5y}$ B. $\frac{10y+15t}{y}$
C. $\frac{2y+t}{y}$ D. $\frac{2y+3t}{y}$

43. The diagram below represents a rectangular solid from which a cylinder of diameter 14 cm has been removed.

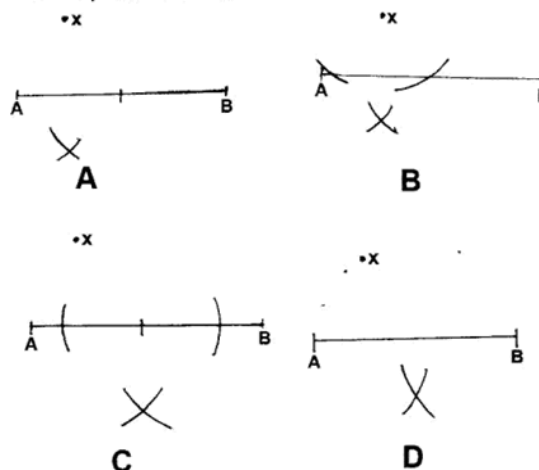


What is the volume of the solid in cm³?

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

- A. 3850 cm³ B. 6150 cm³
C. 4150 cm³ D. 10,000 cm³

44. Which one of the following diagrams shows arcs that lead to the construction of a perpendicular from point X to line AB?



45. In a certain leap year, 13th February was Thursday. What day was 10th May the same year?

- A. Sunday B. Monday
C. Saturday D. Friday

46. The table below shows bus fare from town A to town E.

A	B	C	D	E
106				
286	188			
396	300	118		
450	375	228	128	

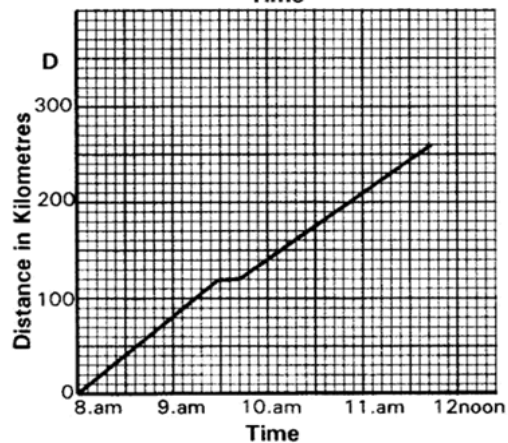
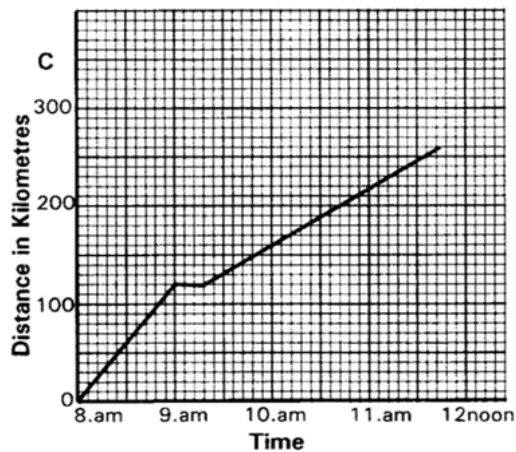
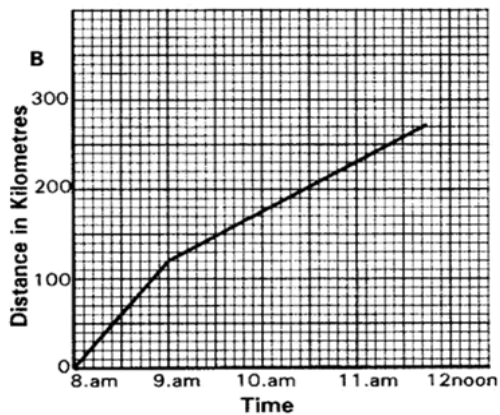
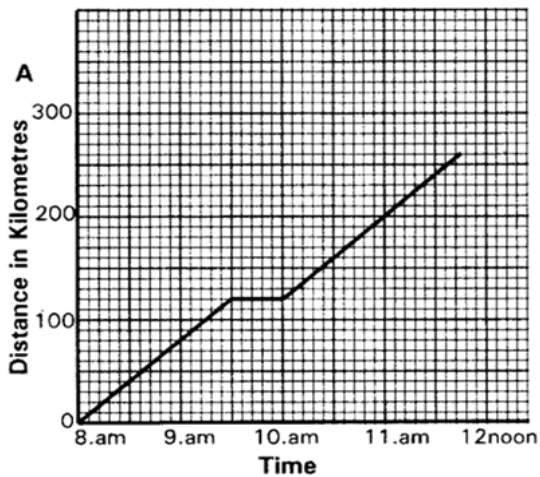
3 Adults and six children travelled from town A to town C. The following day they travelled from town C to town E. The fare for a child is half of that of an adult. How much do they pay altogether for the whole journey?

- A. sh. 2,700 B. sh. 4,626
C. sh. 2,424 D. sh. 3,084

47. The area of a right-angled triangular plot is 2400 m². The length of the shortest side is 60 m. What is the perimeter of the longest side?

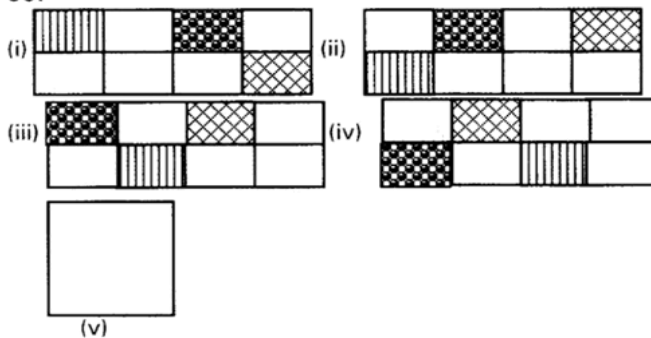
- A. 240 m B. 100 m
C. 160 m D. 180 m

48. A motorist left Nakuru for Nairobi, a distance of 260 km, at 8.00 am. After travelling for 1½ hours at a speed of 80 km/h, the motorist refuelled for 15 minutes. The motorist then resumed the journey and reached the town at 11.45 am. Which one of the following graphs below correctly represents the motorist's journey?

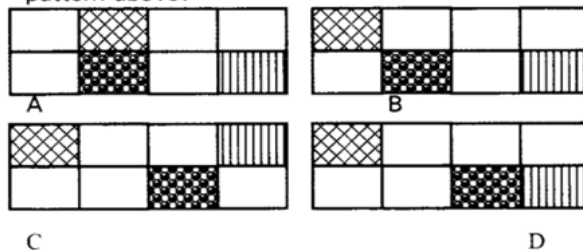


49. Which digit in the fraction $\frac{27}{85}$ should be increased by ONE to make its value as small as possible?
 A. 2 B. 7 C. 8 D. 5

50.



Which one of the following shapes should be drawn in the blank box to continue with the pattern above?



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