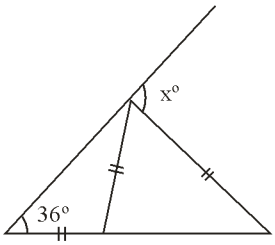
Mathematics
Full Syllabus Test

VIII (CBSE) **Time : 3 hrs.**
Full Marks : 80

SECTION – A
(Compulsory)

1. (a) Multiple $(5x^2 - 8y)(9x + 4y^2)$ 3

   (b) Find the value of x. 3



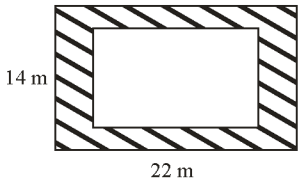
   (c) Two parallel sides of a trapezium are in the ratio 7 : 11 and the distance between them is 17 cm. If the area of the trapezium is 306 cm^2. Find the length of its parallel sides. 4

2. (a) On increase the price of an article by 16%, it becomes Rs. 1479. What was its original price. 3

   (b) Simplify: $\dfrac{x^{2n+3}.\left(x^2\right)^{n-1}}{x^{3n-5}}$ 3

   (c) Find all possible values of y for which the 4-digit number 51y3 is divisible by 9. Also, find each such number. 4

3. (a) In the adjoining figure, find the area of the path which is of uniform width 1.9m inside the rectangle. Hence, find the cost of fencing the path @ Rs. 50 per metre. 4



   (b) Solve: $\dfrac{4}{x-3}+\dfrac{2}{x-2}=\dfrac{6}{x}$ 3

   (c) The marked price of a washing machine is Rs. 24800. A shopkeeper allows two successive discount of 15% and 5%. Find the price which a customer has to pay for the washing machine. 3

4. (a) Find the least number of four digits which is a perfect square. Also find the square root of the number so obtained. 3

   (b) Find the smallest number by which 8788 must be divided so that the quotient is a perfect cube. 3

   (c) A, B and C working separately can do a work in 2, 3, and 4 days. If they all work together and earn Rs. 3900 for the whole work, how should they divide the money? 4

SECTION – B
(Answer any four)

5. (a) A cuboidal block of metal has dimension 36 cm by 32 cm by 0.25m. It is melted and recast into cubes with an edge of 4 cm. How many cubes can be made. 3

   (b) What number should be added to each of the number 3, 5, 13 and 19 so that the resulting number may be in proportion. 3

   (c) Construct a quadrilateral ABCD whose side AB = 8 cm, BC = 7 cm, CD = 9.5 cm, DA = 6 cm and angle $\angle A$ is 75° 4

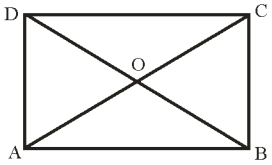
6. (a) The data given below shows number of hours spent by a school boy on different activities on a working day. 3

Activity	School	Homework	Play	Sleep	Others	**Total**
Number of hours	7	4	2	8	3	24

Represent the above data by a pie chart.

(b) A dealer buys a bicycle for Rs. 1250 and marks it at 40% above its cost price. If he allows 8% discount, find (i) MP; (ii) his profit percentage 3

(c) In the adjoining figure, ABCD is a rectangle and diagonal intersect at O. If $\angle AOB = 118^\circ$, find (i) $\angle ABO$, (ii) $\angle ADO$, (iii) $\angle DCB$ 4



7. (a) A solid cubical block of fine wood costs Rs. 256 at Rs. 500 per m^2. Find its volume and the length of each side. 3

(b) A man is five times as old as his son. In two years, time he will be four times as old as his son. Find their present ages. 3

(c) The mean of 8 numbers is 35. If a number is excluded then the mean is reduced by 3. Find the excluded number. 4

8. (a) Simplify: $\dfrac{7^{2n+3} - (49)^{n+2}}{\left[(343)^{n+1}\right]^{2/3}}$ 3

(b) Find the median of the data. Also, find the mean and the mode. 4

17, 15, 6, 16, 8, 22, 21, 9, 18, 25, 16, 19

(c) Factorise: $7 + 10(x + y) - 8(x + y)^2$. 3

9. (a) A cylindrical tank has a capacity of 5632 m^3. If the diameter of its base is 16 m, find its depth. 3

(b) In how many years will Rs. 4000 amount to Rs. 5324 at 10% compound interest? 3

(c) The number of cars coming of the assembly line per day is recorded for thirty days. The results are given below. 4

15 26 34 53 9 51 21 43 58 48 36 29 41 64 30 49 39 7 38 19 35 10 20 27 32 63 15 60 63 8

Make a grouped frequency with class interval 0 – 9, 10 – 19, 20 – 29 etc. Represent this data on a bar graph

10. (a) In an isosceles triangle, a base angle is four times its vertical angle. Find all the angles of the triangle. 3

(b) From a well-shuffled deck of 52 cards, one card is drawn at random. Find the probability of getting (i) a red card? (ii) a 10 of black cards? (iii) a face card? 3

(c) Two equal sides of an isosceles triangle are (3x – 1) and (2x + 2). The third side is 2x units. Find the value of x and the perimeter of the triangle. 4

11. (a) Divide Rs. 2324 among three children in the ratio $1\frac{1}{4} : 1\frac{1}{3} : \frac{7}{8}$. 3

(b) Solve $\dfrac{3}{2x-1} + \dfrac{4}{2x+1} = \dfrac{7}{2x}$. 3

(c) (i) Draw the graph of the function P = 4x. 4

(ii) From the graph, find the value of P, when (I) x = 3, (II) x = 4, (III) x = 6