

MAR THOMA RESIDENTIAL SCHOOL, THIRUVALLA
ANNUAL EXAMINATION 2019 - 2020

Time : 2 1/2 hrs

Mark : 80

Class VIII

MATHEMATICS

I.

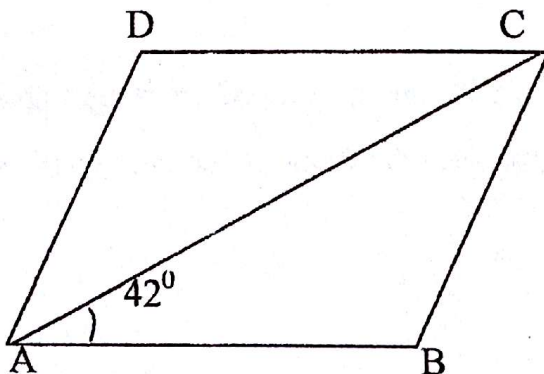
- a) Determine the area of triangle whose sides are 5 cm, 12 cm and 13 cm. (3)
- b) Find the smallest natural number by which 22050 be multiplied so that the resulting product is a perfect square. (3)
- c) Solve the following equations :- $\frac{17-x}{22+x} = \frac{5}{8}$ (4)

II.

- a) If 28 men can do piece of work in 65 Days how many men will do it in 35 Days (3)
- b) Find the square root of 5625 (3)
- c) Divide $(16m^3 - 46m^2 + 39m - 9)$ by $8m - 3$ (4)

III.

- a) What should be added to $7m^2 - 2pq + 5n^2$ to get $3m^2 + pq - 2n^2$ (3)
- b) A motorcycles can travel 480 km in 10 litres of petrol. Find the quality of fuel required for a distance of 624 km. (3)
- c) ABCD is a rhombus if $\angle BAC = 42^\circ$ find $\angle ACB, \angle DAC, \angle ADC$ (4)



IV.

- a) Evaluate (3)
- i. $(x+1)(x+4)$
- ii. $(2y+7)(2y-7)$.

b) Factorise (3)
 $x^2 + 5x - 24$ (4)

c) Expand
i. $(2x + y)^2$
ii. $(3x - 5y)^3$

V. (3)

a) Solve and graph the solution set on number line

$$5x + 4 > 8x - 11; x \in \mathbb{Z}$$

b) The base and corresponding altitude of a parallelogram are 10 cm and 12 cm respectively. If the other altitude is 8 cm, find the length of the other pair of parallel sides (3)

c) Factorise (4)
 $(3x - y)^2 - 2(3x - y) - 35$

VI.

a) The length and breadth of a cuboid are 56 cm and 48 cm respectively. If its volume is 94080 cm^3 find its Total surface Area (3)

b) A Bag contains 5 red balls, 4 black balls and 3 white balls. A ball is drawn at random from the bag. What is the probability that ball drawn is (3)

- i. red
- ii. a black
- iii. not black

c) The perimeter of rhombus is 100 cm and one of its diagonals is 40 cm long. Find the length of other diagonal. Also find the Area of the rhombus (4)

VII.

a) Simplify $\frac{(8)^{-1} \times 5^3}{5 \times (2)^{-4}}$ (3)

b) A copper wire when bent in the form of a square encloses an area of 121 cm^2 . If the same wire is bent in the form of a circle Find the area of the circle. (3)

- c) 17 cards numbered 1, 2, 3,16, 17 are put in a box and mixed thoroughly. One person draws a card from the box. What is the probability that the number on the card is (4)
- i. odd, (ii) a prime (iii) divisible by 3 (iv) divisible by 2

VIII.

- a) Find the volume, area of curved surface and total surface Area of a right circular cylinders whose height and radius are respectively 8 cm and 7 cm (3)
- b) Construct a bar graph to represent each of the following data. The marks obtained by Anil in his annual examination. (3)

Subject	English	Science	Maths	History	Hindi
Marks obtained	60	75	80	55	50

- c) Construct a quadrilateral ABCD in which $AB = 4 \text{ cm}$, $BC = 3.5 \text{ cm}$, $CD = 5 \text{ cm}$, $AD = 5.5 \text{ cm}$ $\angle B = 75^\circ$ (4)