

MAR THOMA RESIDENTIAL SCHOOL, TIRUVALLA

ANNUAL EXAMINATION 2017-2018

MATHEMATICS

Class VIII

Marks: 80

Time: 2 hrs

(Answer All Questions)

Question 1

- A man plants his orchard with 5625 trees and arranges them so that the number of rows and the number of trees in each row are same. Find the number of rows. (3)
- Two sums of money are in the ratio 8:9. If the first is Rs.172.80 find the second sum. (3)
- If a car dealer sells a car for Rs.67680 he will lose 6%. For what amount should he sell it so as to gain 6%. (4)

Question 2

- Find the cube root of 1728 by prime factorization method. (3)
- Solve $2(x + 5) = 12x + 70$ (3)
- Factorise (i) $7b^2 - 8b + 1$
(ii) $a^2 + ax + ab + bx$ (4)

Question 3

- Solve equations $x + 3y = 3$ and $4x - 5y = 29$ by substitution method. (3)
- If the area of an equilateral triangle is $81\sqrt{3}$ cm², find the perimeter. (3)
- The sides of a triangle are 17cm, 21cm and 10cm. Find the area of the triangle. Also find the altitude from the longest side of the triangle. (4)

Question 4

- Solve $9x^2 - 3x - 2 = 0$ (3)
- If marked price is Rs.900 and selling price is Rs.873 find discount and discount percentage. (3)
- Solve by elimination method $\frac{x}{4} - \frac{y}{6} = 3$, and $\frac{x}{2} - y = -2$. (4)

Question 5

- The diagonals of a rhombus are 16cm and 12cm. Find the (i) Area of the rhombus (ii) length of its side (iii) its perimeter. (3)
- What is the rate of interest if Rs.3750 amounts to Rs.4650 in 4 years. (3)
- Solve $\frac{3x-1}{4x+3} = \frac{5}{11}$ (4)

Question 6

- a. The perimeter of a rectangle is 28cm and its length is 8cm. Find its (i) breadth (ii) area (iii) length of diagonal.
- b. Find the square root of 46656 using long division method.
- c. Find the compound interest on Rs.9600 for 3 years at 10% per annum.

Question 7

- a. Solve $\frac{3}{x} - \frac{4}{y} = 1$ and $\frac{2}{x} - \frac{3}{y} = 0$
- b. Find the area of a trapezium with base 12cm and height 6cm. Given that the side parallel to the given base is 7cm long.
- c. Factorise (i) $4x^2 + 20xy + 25y^2$
(ii) $x^2 - a^2 + 4ab - 4b^2$

Question 8

- a. Sum of the digits of a two digit number is 9. The number obtained by interchanging digits exceeds the given number by 27. Find the given number.
- b. i) Sketch the graph of $y = 2x - 1$.
ii) Sketch the graph of $3x - y = 3$.
iii) Find their intersection point.

(3x2=6)