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MAR THOMA RESIDENTIAL SCHOOL, THIRUVALLA
Second Terminal Examination December 2019

Class VIII

MATHEMATICS

Time : 2 1/2 hrs
Mark : 80

Answer all the questions

I.

- a) Find the number of sides of a polygon whose sum of interior angles is 1440° (3)
- b) Find the marked price, if the selling price is Rs 2550 and discount allowed is 15% (3)
- c) Add the following algebraic expressions $9a^3 - 6a^2b + 3ab^2 + 5ab$, $-5a^3 - 4a^2b - 6ab^2 - 2ab$ and $11a^3 + 4a^2b - ab^2 - 7ab$ (4)

II.

- a) (i) Evaluate using expansion of $(a+b)^2$ find the value of 107^2
(ii) Using the formula $(a+b)(a-b) = a^2 - b^2$ to evaluate 97×103 (3)
- b) Evaluate (3)
- (i) $(c+6)(c+2)$
- (ii) $(xy+4)(xy-4)$
- c) Factorise (3)
- $8 + 6(x+y) - 5(x+y)^2$ (4)

III.

- a) Find the simple interest on Rs 6000 at $5\frac{1}{4}\%$ per annum for 2 years. Also find the amount (3)
- b) Factorise (3)
- (i) $x^2 - 7x + 10$
- (ii) $4m^2 - 49$
- c) The angles of hexagon are $(2x+3)$, $(x+10)$, $(2x+24)$, $(3x-3)$, $(4x-8)$ and $(2x-6)$ find the value of x (4)

IV.

- a) Subtract $3x + 4y - 2z$ from the sum of $3 + 4z + 3y - x$ and $2x + 5y - 6z + 8$ (3)
- b) Solve the following equation (3)
- $$\frac{3x-1}{4x+3} = \frac{5}{11}$$
- c) In what time will the simple interest on Rs 900 at 6% be equal to the simple interest on Rs 540 for 8 years at 5% (4)

V

- a) Is it possible to have a polygon whose sum of whose interior angle is 2400
- b) Expand $(2x - 3y)^2$
- c) Four angles of a quadrilateral are in the ratio 2 : 3 : 6 : 9 find the angles

VI

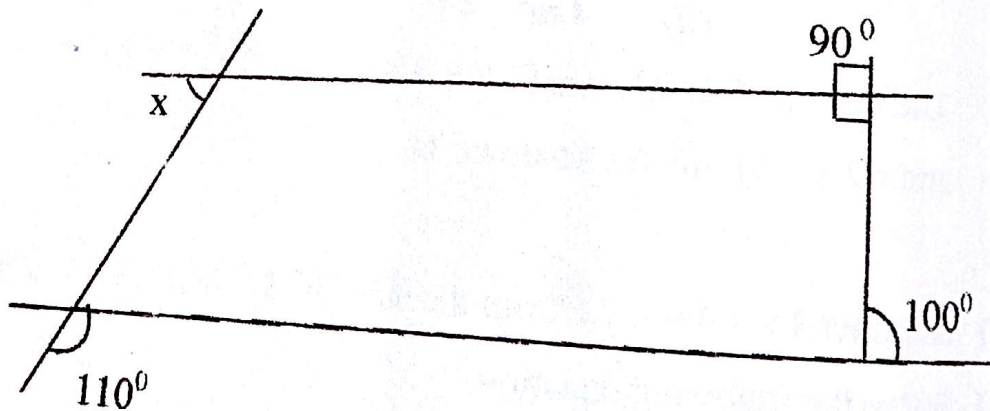
- a) Solve the following equation
 $5x - 23 = 7x - 15$
- b) (i) Divide $(x^2 + 2x - 15)$ by $(x - 3)$
(ii) Multiply $(5m + 2n)(5m + n)$
- c) A man invested Rs 8000 for 2 years at 9% per annum, compounded annually, calculate
(i) The interest for the first year
(ii) The amount due at the end of the first year
(iii) The interest for the second year
(iv) The amount due at the end of the second year

VII

- a) Factorise $6x^2 + 11x + 3$
- b) How much will a sum of Rs 4000 amount to in $1\frac{1}{2}$ years at 10% per annum compounded interest, interest being payable half-yearly
- c) Solve
$$\frac{6x-2}{4} + \frac{1}{3}(2x-1) = 4x$$

VIII

- a) A publisher offers a discount of 10% on his books and still makes a profit of 20%. What is the actual cost of a book, if it is marked at 320?
- b) From the following figure . Find the measure of x



c) Solve

$$3(x - 8) - 2(3x - 5) = 2 - 5x$$