Richmond College - Galle

First Term text - 2020

Mathematics

Grade 09 | 2 hours

Name - : ..... Class - : .....

Part I

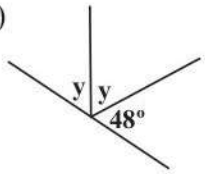
Answer all the questions

(01) Find the next two terms of the given number patten.
10, 5, 0, ..., ...

(02) A discount of 5% is offered when an item is purchased with marked price Rs 500. find the selling price of the television set.

(03) Simplify $\frac{1}{8} + \frac{1}{4}$

(04) find the value of 'y'



(05) The general term of a number, pattern is 3n - 1 find the 21st term.

(06) Convert 1110_{two} binary number in to decimal number.

(07) Find the value of $\frac{1}{2}$ of $1\frac{1}{2}$ kg.

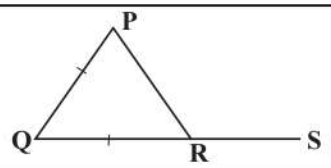
(08) If $m = -1$, $n = \frac{1}{2}$ find the value of 2mn.

(09) Remove the bracket and simplify.

$(2x - 1)(5 - x)$

(10) Find the factors of $25a^2 - 1$.

(11) In the PQRS triangle PQ = QR, QR side extended to S
Show that PQ + RS = QS.



(12) Simplify $5x - 1 = 4$

(13) Add $1101_{two} + 111_{two}$

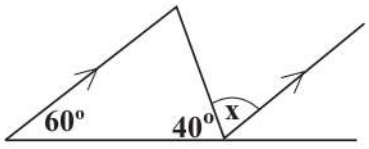
(14) A vender buys an item for Rs 900 and sells it for Rs 1050.

a) Determine the profit

b) Find the percentage of the profit.

(15) Find the value using factors knowledge
$99^2 - 1$

(16) Find the value of x using the given data.

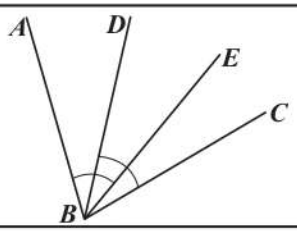


(17) Simplify

$\frac{1}{4}$ of $\left(2\frac{2}{3} \div 1\frac{1}{7}\right)$

(18) If $\frac{1}{5}$ of some amount of money is equal to Rs 750 How much is the whole amount ?

(19) If $A\hat{B}E = D\hat{B}C$
Show that $A\hat{B}D = E\hat{B}C$ with knowledge of axioms



(20) Find the general term of the given number pattern 8 , 6, 4, ..., ...

(Marks 2 x 20 = 40)

Part II

Answer 6 questions only

(01) A student opened the savings account by depositing Rs 100 , in month of January. then after each every month he deposited Rs 50 for this saving account.

(i) Write the amount of money for the four months respectively. (Marks 02)

(ii) Write the first term and the difference according to the above number pattern (Marks 02)

(iii) Write the general term of the (Tn) above number pattern. (Marks 03)

(iv) Find the amount of money in the savings account in the month of december. (Marks 03)

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(02) The length of a rectangular shaped flower bed is twice its breadth and more than 1 m.

a) (i) Draw a rough sketch of the flower bed and mention it's length and breadth. (Marks 02)

(ii) Write the expression for its area and simplify it.

(b) Find the factors (Marks 03)

(i) $x^2 - 11x + 30$.

(I) $25x^2 - 9$.

(Marks 03) (Marks 02)

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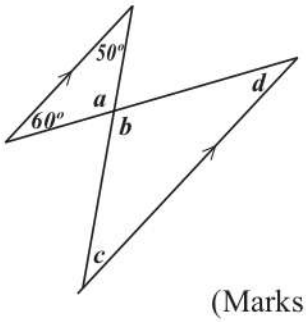
(03)

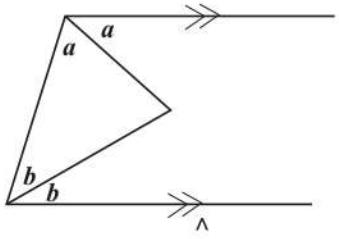
(i)



(Marks 04)

Find the value of a,b,c,d

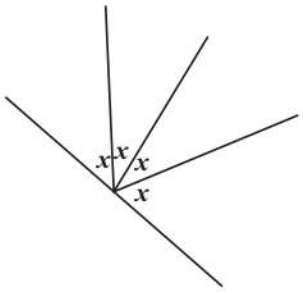
(ii)



Find the value of AEC

(Marks 04)

(iii)



Find the value of X

(Marks 02)

(04) A man spent $\frac{1}{2}$ of his salary for food and $\frac{1}{5}$ for rented house fee from his salary .

(i) What Fraction he spent for both food and rental fee rented house fee from his whole salary . (Marks 02)

(ii) From the rest of the above expenditures he spent $\frac{1}{3}$ for childrens ' education . Write it as a fraction out of the total salary . (Marks 03)

(iii) After spending for all the above items the other remaining portion is deposited in the bank. write it as a fraction from whole amount . (Marks 02)

(iv) If the above fraction is equal to Rs 8000 find his whole salary. (Marks 03)

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(05) A Jewellary maker spent Rs 40,000 to make a bangle set. He marks its selling price with a profit of 20% when selling the bangle set. If the payment is done with an outright a discount of 10% is ofered to the customer.

(i) Find the marked price of the bangle set. (Marks 02)

(ii) Find the price of the bangle set when that discount is given. (Marks 03)

(iii) Find the profit percentage he got. (Marks 02)

(b) A person paid a commission of 3% when he purchased a house. If he paid Rs 59000 as a commission, find the amount he paid for the house. (Marks 06)

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(06)

(i) Write as a decimal number for 1101_{two} (Marks 03)

(ii) Write as a binary number for 35_{two} (Marks 03)

(iii) Add $11011_{two} + 111_{two}$ (Marks 06)

(iv) Subtract $11011_{two} + 101_{two}$ (Marks 06)