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Devi Balika Vidyalaya - Colombo

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First Term Test - 2012

Mathematics - Part I

Grade 10 2 hours

Name : ..... Index No. : .....

* Answer all the questions in the given paper it self.

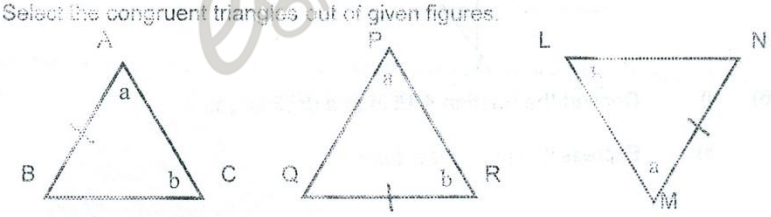
01) Simplify $\frac{0.1 \times 0.01}{0.001}$

02) To increase 25% of the bus fare what's the amount that has to be multiplied the previous bus fare ?

03) How far is the total distance if 1/5 of a journey is 40 km ?

04) Evaluate 7 + 3 x 5

05) Select the congruent triangles out of given figures.



06) Simplify. $\frac{a+3}{a-3} - \frac{3}{a-3}$

07) How many packets of 50g tea leaves can be packed using 5.5 kg of tea leaves ?

08) Select and underline two rational numbers

2.75 , $\sqrt{3}$, 1.2345 ..... , $\sqrt{16}$

09) Factorise $a^2 - a - 12$

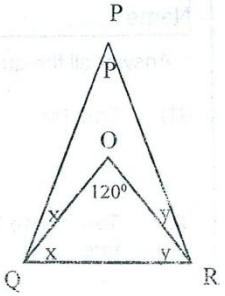
10) Calculate the radius of a semi circle where the area of it is 308 cm²

11) Multiply (3x + 2) and (5 - 2x). Express the result as a trinomial expression.

12) Simplify.

$$5 - \left[1\frac{1}{3} + 2\frac{1}{2}\right]$$

13) The bisectors of angles Q and R of triangle PQR are meet at O in the given figure. if $Q\hat{O}R = 120^0$



i) Find the Value of (x + y)

ii) Hence evaluate P

14) If a = 2 , B (-3) find the value of 3a - b

15) Find the value of a,

16) i) Convert the fraction 4/15 in to a decimal value.

ii) Express it in abbreviate form

17) Following shows the expansion of two numbers using prime factors of them, find.,

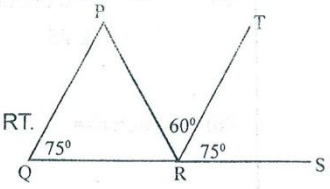
7 x 11 x 3 x 5

2 x 5 x 7 x 3

i) Highest comman factor

ii) Lowest common multiple, of those numbers.

18) According to the given figure.



i) Write the relationship between the sides QP and RT.

ii) Find the value of $Q\hat{P}R$

19) Solve $\frac{3P}{2} + 5 = 8$

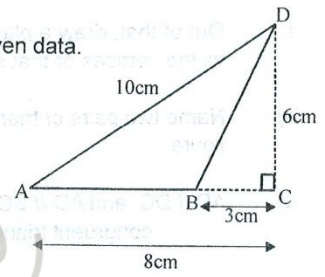
20) Find L.C.M. of given algebraic expressions.

$(a + 1)^2$, $(1 - a)$, $(a - 1)$

21) Express 0.7 in fractional form

22) Factorise $2x^2 - 18$

23) Find the area of the triangle ABC , according to the given data.



24) Subtract the expression $x^2 - 2x - 5$ from $3x^2 - 2x - 8$

25) Arrange in ascending order.

$\frac{4}{7}$ $\frac{6}{11}$ $\frac{5}{9}$

Mathematics - Part II

* Answer all the questions.

01) Factorise.

i) $3y^3 \times 21 - 9y - 7y^2$

ii) $(a - 3)^2 - 16$

iii) $6p^2 - 11p + 3$

iv) Evaluate using the knowledge of factors.

98.5×101.5

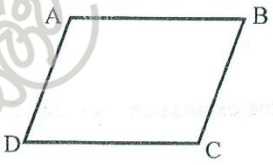
02) Remind the activity you have done on study of triangles in the class room, relevant to the lesson congruency of triangles.

i) Write down two names of regular polygons there you refered.

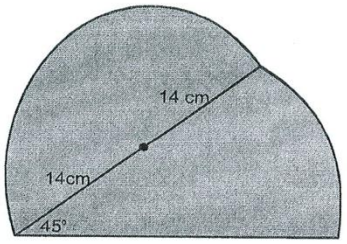
ii) Out of that, draw a plane figure you like most and draw all the diagonals by joining all the vertices of that shape.

iii) Name two pairs of triangles with the case of congruency. Using the drawn plane figure.

iv) AB // DC and AD // BC in the given figure. Prove that the triangles ABC and ADC are congruent triangles.



03) The given figure shows a petal of a flower which uses to make a paper flower. It is a combination of a semi circle and a sector of a circle.



i) Calculate the perimetor of the above petal

ii) Find the area of this petal

iii) It is necessary five such petals to make a paper flower. Find the area of the paper which needs to this purpose.

iv) It needs Rs. 10.00 to make one flower. Calculate the expenditure to make 100 such flowers.

04) a) If 784 = 2 x 2 x 2 x 2 x 7 x 7

deduce $\sqrt{784}$

b) Find the first approximation of $\sqrt{54}$

c) A mother is given 4/7 of a certain money to her son, 2/3 of the remainder to daughter. Then she remains Rs. 400 with her.

i) What fraction she remains out of the total money.

ii) How much is the total money that the mother had ?

05) i) AB = AC in the triangle ABC. Prove that $\hat{ABC} = \hat{ACB}$.

ii) Show that the magnitude of an interior angle is 60° in an equilateral triangle.