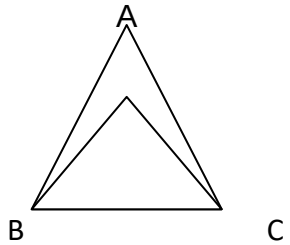
Math's Assignment

Class 9th

1. Express $0.\overline{47}$ in the form of p/q where p and q are integers and q≠0.
2. Express $0.6+0.\overline{7}+0.\overline{47}$ in the form of p/q are integers and q≠0
3. Simplify $6\sqrt{3} + 5\sqrt{12}$
4. Represent 1.3124 on the no. line.
5. Rationalise the denominator of $\frac{2}{\sqrt{3}-\sqrt{5}}$
6. Represent $\sqrt{10.5}$ on the no. line.
7. If a = $\frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$ and b = $\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$ find the value of $a^2 + b^2 - 5ab$
8. If Z = 0.064 then find the value of $\left(\frac{1}{z}\right)^{\frac{1}{3}}$
9. Two sides of a triangle are 48cm and 70cm. If the perimeter is 154 cm. Find its area.
10. The sides of a triangle are in the ratio 3:5:7 and its perimeter is 300m. Find it s area.
11. In the given figure ABC is equilateral with side 10cm and ΔDBC is right angled at D. If BD=8cm. Find the area of shaded portion($\sqrt{3}$=1.732)



12. If lengths of the diagonals of a rhombus are 300m and 160m. Find the side and area of rhombus.
13. The adjacent sides of a||gm ABCD measures 34cm and 20cm and the diagonal AC measure 42 cm. find the area of ||gm.
14. Find the area of Trapezium in which parallel sides are of length sides are 5cm and 11cm. Whereas non – parallel sides are of length 4cm and 6cm.
15. If a-b=7 and $a^2 + b^2$=85 find $a^3 + b^3$
16. Factories $(n + 2n)^2$ + 101 $(m + 2n)$ + 100
17. If x and y are two positive real no such that $25x^2 + 49y^2$ = 841 and xy = 12 then find the value of $125x^3 + 343y^3$
18. If $(x + a)$ is a factor of each of the polynomial x^2 + px +q and x^2 +mx+ n prove that a = $\frac{n-q}{m-p}$
19. Factories $y^3 - 2y^2$ -29y – 42 using factor theorem.
20. When the polynomial $x^3 + 4x^2$ - 11x -26 and $6x^3 + 17x^2$ + ax – 8 are divided by x+2 then remainder is same find the value of a.
21. If both $(x - 3)$ and $(x - \frac{1}{3})$ are the factors of px^2+5x+r then show that p – r = 0.
22. Factorise 8 $(4x - \frac{1}{4x})^2$ + 10 $\left(4x - \frac{1}{4x}\right) + 3$ by splitting the middle term.
23. If $\left(\sqrt{5 + 3\sqrt{x}}\right) = 3$ then the value of x is?
24. If $a^2 + b^2 + c^2 = 14$ and a+b+c = 6 find ab+bc+ca
25. Area of the trapezium is 476cm^2. If the ratio of the parallel sides is 2:3 and the distance between them is 17cm, find the lengths of the parallel sides.
26. If area of an equilateral triangle is $64\sqrt{3}$ cm^2 , Calculate

1. Perimeter of the triangle 2. Height of the triangle

27. The perimeter of a right angled triangle is 40 cm and its hypotenuse is 17 cm. Calculate its area and verify the result by using Heron's formula.
28. Simplify $\frac{3\sqrt{2}-2\sqrt{3}}{3\sqrt{2}+2\sqrt{3}} + \frac{2\sqrt{3}}{\sqrt{3}-\sqrt{2}}$ by rationalizing the denominator.
29. If x = $\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$ and y = $\frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$ then find the value of $x^2 + y^2$
30. If $\frac{9^{n+2} X \left(3^{\frac{-n}{2}}\right) - 27^n}{3^{3m} \times 2^3 \times 10} = \frac{1}{27}$ then prove that m – n =1
31. If x=5 - $\sqrt{21}$, prove that $(x^3 + \frac{1}{x^3})$ - 5 $(x^2 + \frac{1}{x^2})$ + $(x + \frac{1}{x})$ = 0
32. Factorise $x^4 + x^3 - 7x^2 - x + 6$
33. Find a, b

$$\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = a + \frac{7}{11}\sqrt{5}b$$

34. Find the value of x^x if it is given that $2^x - 2^{x-1} = 4$
35. If x + y + z = 0. Prove that $\frac{x^2}{yz} + \frac{y^2}{zx} + \frac{z^2}{xy} = 3$

Note:

Do Examples of chapter – 1, 2, 3,12