Vishwa Bharati Higher Secondary School Udheywalla Jammu

Summer Assignment **Class 9th**

Q1) Represent $\sqrt{10}$ & $\sqrt{13}$ on number line.

Q2) Find the number of repeating digits in the decimal expansion of $\frac{3}{7}$.

Q3) Classify the following numbers as rational or irrational justification.

a) $\frac{\sqrt{28}}{\sqrt{343}}$ b) 0.5918 c) 1.010010001…….

Q4) Find $\sqrt{3.5}$ geometrically & then represent on the number line.

Q5) Evaluate $\frac{2^{40}+2^{39}+2^{38}}{2^{41}+2^{40}-2^{39}}$.

Q6) Simplify $\frac{6}{\sqrt[3]{2}-\sqrt[2]{3}}$.

Q7) Prove that $\frac{1}{2+\sqrt{3}}+\frac{2}{\sqrt{5}-\sqrt{3}}+\frac{1}{2-\sqrt{5}}=0$

Q8) Find the degree of the polynomial $1-x^2-x^3+2x^7$.

Q9) Find the co-efficient of x in the expansion $(x+3)^3$.

Q10) If the polynomial ax^3+3x^2+5x-4 and x^3-4x+a leave the same remainder when divided by (x-2) then find the value of a.

Q11) If x=2 and x=0 are zeros of the polynomial $2x^3-5x^2+ax+b$, then find the values of a and b.

Q12) Using remainder theorem, find value of k, so that $(4x^2+kx-1)$ leaves remainder 2, when divided by (x-3).

Q13) Factorize:

a) $2\sqrt{2}\,a^3+8b^3-27c^3+18\sqrt{2}$
b) $8x^3-y^3-12x^2y+6xy^2$.
c) $x^3-1^3-10x^3-53x-41$

Q14) If a+b+c=5 and ab+bc+ca=10 then prove that $a^3+b^3+c^3-3abc=-25$.

Q15) Solve:

a) $7\sqrt{2}\,a^2-10a-4\sqrt{2}$.
b) x^3+y^3+x+y.
c) $5(3x+y)^2+6(3x+y)-8$

Q16) If $x^2+\frac{1}{x^2}=7$, x>0 then find the values of $x^3+\frac{1}{x^3}$ and $x+\frac{1}{x}$

Q17) Plot the following ordered pairs (x,y) of numbers as points in the Cartesian plane. Write their quadrants.

A(-3,7), B(0,-3.5), C(-1,-3), D(4,4), E(2,-3)

Q18) Check whether the polynomial $9(t)=4t^3+4t^2-t-1$ is a multiple of 2t+1.

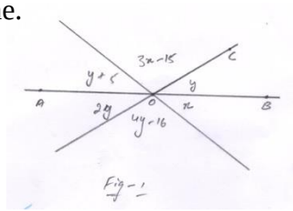
Q19) Find the sum of $0.0\overline{3}$ and $0.\overline{4}$.

Q20) Prove that the two lines which are parallel to the same line are parallel to each other.

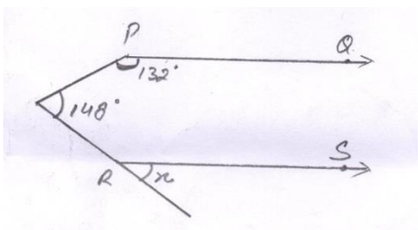
Q21) Prove that an equilateral triangle can be constructed on any given segment.

Q22) Angle of a triangle are in the ratio of 2:4:3. Find the smallest angle of triangle.

Q23) In the given figure if $y=20^0$, then prove that AOB is a straight line.



Q24) In figure if PQ||RS then find the value of x.



Q25)In figure if l||m, then find ∠y.