

9 Class Math Tuition Assignment

Assignment – 1

Assigned To = All 9 Class Student

Chapter = Number System

Submission Date = See on portal

MM = 30

Q1. Express each of the following decimals in the form p/q:

(i) 0.621621..... (ii) 125.3333.....

Q2. Represent $\sqrt{9.4}$ on number line and write all the Steps.

Q3. Visualise 2.665 on the number line, using successive magnification.

Q4. If $x = (2 + \sqrt{3})$, find the value of

$$x^2 + \frac{1}{x^2} .$$

Q5. Simplify : $(4 + \sqrt{3})(4 - \sqrt{3})$

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Q6. Rationalise the denominator of $\frac{1}{\sqrt{3}-\sqrt{2}}$.

Q7. If $x = \frac{2-\sqrt{5}}{2+\sqrt{5}}$ and $y = \frac{2+\sqrt{5}}{2-\sqrt{5}}$, find the value of $x^2 - y^2$.

Q8. If $x = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$ and $y = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$, find the value of $x^2 + y^2 + xy$.

Q9. Determine rational numbers p and q if

$$\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = p - 7\sqrt{5}q.$$

Q10. Simplify: $\frac{3\sqrt{2}}{\sqrt{6}-\sqrt{3}} + \frac{2\sqrt{3}}{\sqrt{6}+2} - \frac{4\sqrt{3}}{\sqrt{6}-\sqrt{2}}$.

Q11. Show that: $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} = 5$

Q12. If: $x = \frac{\sqrt{p+q} + \sqrt{p-q}}{\sqrt{p+q} - \sqrt{p-q}}$, then find the value of $qx^2 - 2px + q$.