9 Class Math Tuition Assignment

Assignment – 1

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Chapter = Number System

Submission Date = 23 April 2021 **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 $qx^2 - 2px + q$.