



D.A.V. PUBLIC SCHOOL, NEW PANVEL
2025-2026
SUMMER HOLIDAY ASSIGNMENT
WORKSHEET

SUB: MATHEMATICS

STD: IX

CHAPTER: NUMBER SYSTEM

Q.1. Represent $\sqrt{5}$ on the number line.

Q.2 Express the following in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$

a) $0.1\overline{34}$ b) $0.404040\ldots$

Q.3. Simplify $\left[\left\{ (625)^{-\frac{1}{2}} \right\}^{-\frac{1}{4}} \right]^2$

Q.4. Find three irrational numbers between $\frac{1}{5}$ and $\frac{2}{7}$ in the decimal form

Q.5. Rationalise the denominator $\frac{3\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}}$

Q.6. If $a = 2 + \sqrt{3}$, then find the value of $a - \frac{1}{a}$.

Q.7. Express $0.6 + 0.\overline{7} + 0.4\overline{7}$ in the form $\frac{p}{q}$.

Q. 8. If $x = \sqrt{5} + 2$, find the value of $x^4 + \frac{1}{x^4}$.

Q. 9. Find the values of a and b in each of the following:

a) $\frac{3 - \sqrt{5}}{3 + 2\sqrt{5}} = a\sqrt{5} - \frac{9}{11}$

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

Q.10. Represent $\sqrt{6.7}$ on a number line.

Q.11. Find three rational numbers between $\frac{2}{3}$ and $\frac{7}{9}$

Q.12. Simplify: $\frac{7\sqrt{3}}{\sqrt{10} + \sqrt{3}} - \frac{2\sqrt{5}}{\sqrt{6} + \sqrt{5}} - \frac{3\sqrt{2}}{\sqrt{15} + \sqrt{2}}$

Q.13. 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 $x^2 + y^2$.

Q.14. Evaluate : $\frac{1}{3 - \sqrt{8}} - \frac{1}{\sqrt{8} - \sqrt{7}} + \frac{1}{\sqrt{7} - \sqrt{6}} - \frac{1}{\sqrt{6} - \sqrt{5}} + \frac{1}{\sqrt{5} - 2}$