**NORTH POINT SENIOR SECONDARY BOARDING SCHOOL**

**WORKSHEET**

**CLASS - IX**

**MATHS**

**CHAPTER 1**

**1. Write two rational numbers between 1 and 2.**

**2. Write four rational numbers between** $\frac{2}{3} and \frac{5}{3}$

**3. Express 0.**$\overbar{7}$ **in** $\frac{p}{q}$ **form.**

**4. Express 0.**$\overbar{32}$ **in** $\frac{p}{q }$ **form.**

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

**6. Represent** $\sqrt{26 }$ **on the number line.**

**7. Write the following in decimal form and say what kind of decimal expansion each has:**

**i)**$\frac{36}{100}$ **ii)**$\frac{1}{11}$ **iii)**$\frac{3}{13}$

**8. Express 0.999999..... in the form** $\frac{p}{q}$

**9. Write three different irrational numbers between the rational numbers** $ \frac{5}{7}$ **and** $\frac{9}{11}$

**10. Visualise 3.765 on the number line, using successive magnification.**

**11. Visualise 4.**$\overbar{26}$ **on the number line, up to 4 decimal places.**

**12. Simplify each of the following expressions:**

**i)**$(3+\sqrt{3 }$**)(**$ 2+\sqrt{2}$**)**

**ii)(**$(3+\sqrt{3}$**)(**$3-\sqrt{3}$**)**

**13. Rationalise the denominators of the following:**

**i)**$\frac{1}{\sqrt{7}}$

**ii)**$\frac{1}{\sqrt{7}-\sqrt{6}} $

**iii)**$\frac{1}{\sqrt{5}+\sqrt{2}}$

**14. Find**

**i)**$(64)^{\frac{1}{2}}$

**ii)**$(32)^{\frac{1}{5}}$

**15. Simplify:**

**i)**$(2)^{\frac{2}{3 }} (2)^{\frac{1}{5}}$

**ii)**$(\frac{1}{3^{3}})^{7}$

**16. Write three numbers whose decimal expansions are non-terminating .**

**17. Write three numbers whose decimal expansions are non-recurring.**

**18. Simplify:** $\frac{3}{5-\sqrt{3 }}+ \frac{2}{5+\sqrt{3}}$

**19. Rationalise the denominator:**

**i)**$\frac{5}{4\sqrt{2}}$ **ii)**$\frac{5\sqrt{3}}{\sqrt{5}}$ **iii)**$\frac{1}{3\sqrt{6}}$

**20. Write two irrational numbers lying between 0.2 and 0.21**

**21. Represent** $\sqrt{17}$ **on the number line.**

**22. Find six rational numbers between** $\frac{3}{5 }$ **and** $\frac{2}{3}$

**23. Find five rational numbers between 2 and 10**

**24. Convert the following rational numbers into decimal form.**

 **i)**$\frac{13}{4}$ **ii)**$\frac{145}{8}$ **iii)**$\frac{874}{999}$

**25. Multiply** $\sqrt{5} $**and** $7\sqrt{5}$

**26. Add (**$3\sqrt{2}$ **+**$ 5\sqrt{3}$**) and (**$\sqrt{2}$ **+**$\sqrt{3}$**)**

**27. Simplify : (**$\sqrt{5} $ **+**$ \sqrt{3}$**)(**$\sqrt{2} $ **-**$ \sqrt{6}$**)**

**28. Visualise 6.57 on the number line, using successive magnification.**

**29. Visualise**$ 2.\overbar{45}$ **on the number line, up to 3 decimal places.**

**30. Visualise** $8.32\overbar{9}$ **on the number line, up to 4 decimal places.**