

MATHEMATICS
PRACTICE ASSIGNMENT
CLASS - IX
NUMBER SYSTEM [I]



Section [A]

1. Do as directed:
- (a) Find the product $\sqrt[3]{2}$, $\sqrt[4]{2}$ and $\sqrt[12]{32}$
- (b) Find the sum of $\sqrt{3} + 2\sqrt{3} + 3\sqrt{3}$.
2. Do as directed:
- (a) Find a rational number between $\frac{1}{3}$ and $\frac{1}{2}$
- (b) Rationalise the denominator of $\frac{3+\sqrt{2}}{4\sqrt{2}}$

Section [B]

3. Simplify :
- (a) $3\sqrt{3} + 2\sqrt{27} + \frac{7}{\sqrt{3}}$
- (b) $\frac{\sqrt{32}+\sqrt{18}}{\sqrt{8}+\sqrt{12}}$
4. Simplify :
- (a) $\frac{7\sqrt{3}}{\sqrt{10}+\sqrt{3}} - \frac{2\sqrt{5}}{\sqrt{6}+\sqrt{5}} - \frac{3\sqrt{2}}{\sqrt{15}+3\sqrt{2}}$
- (b) $\frac{4}{(216)^{\frac{-2}{3}}} + \frac{1}{(256)^{\frac{-3}{4}}} + \frac{2}{(243)^{\frac{-1}{5}}}$

Section [C]

5. Do as directed:
- (a) If $a = 2 + \sqrt{3}$ then find $a^2 + \frac{1}{a^2}$
- (b) Find a and b if $\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = a - 6\sqrt{3}$
6. Do as directed:
- (a) Locate $\sqrt{5}$ and $\sqrt{10}$ on number line.
- (b) Represent geometrically $\sqrt{5.6}$ and $\sqrt{8.1}$ on the number line.

Section [D]

7. Simplify
- (a) $\frac{\frac{1}{9^3} \times 27^{\frac{-1}{2}}}{\frac{1}{36 \times 3^{\frac{-2}{3}}}}$
- (b) $\sqrt[4]{81} - 8\sqrt[3]{216} + 15\sqrt[5]{32} + \sqrt{225}$
8. Do as directed:
- (a) 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 $x^2 + y^2$.
- (b) Express $0.6 + 0.\bar{7} + 0.4\bar{7}$ in the form of $\frac{p}{q}$, where p and q are integers and $q \neq 0$