Number System Ex 1.4 Q4

Answer :

(i) Given number is $x = \sqrt{4}$

$x = 2$, which is a rational number

(ii) Given number is $3\sqrt{18}$

$\Rightarrow 3\sqrt{18} = 3\sqrt{3 \times 3 \times 2}$

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$\Rightarrow 3\sqrt{18} = 18\sqrt{2}$

318=33×3×2=3×32=92

So it is an irrational number

(iii) Given number is $\sqrt{1.44}$

Now we have to check whether it is rational or irrational

$\Rightarrow \sqrt{1.44} = \sqrt{\frac{144}{100}}$

$\Rightarrow \sqrt{1.44} = \frac{\sqrt{144}}{\sqrt{100}}$

$\Rightarrow \sqrt{1.44} = \frac{12}{10}$

$\Rightarrow \sqrt{1.44} = \frac{6}{5}$

$\Rightarrow \sqrt{1.44} = 1.2$

So it is a rational

(iv) Given that $\sqrt{\frac{9}{27}}$

Now we have to check whether it is rational or irrational

$$\Rightarrow \sqrt{\frac{9}{27}} = \frac{\sqrt{9}}{\sqrt{27}}$$

$$\Rightarrow \sqrt{\frac{9}{27}} = \frac{3}{\sqrt{3\times 3\times 3}}$$

$$\Rightarrow \sqrt{\frac{9}{27}} = \frac{3}{3\sqrt{3}}$$

$$\Rightarrow \sqrt{\frac{9}{27}} = \frac{1}{\sqrt{3}}$$

So it is an irrational number

(v) Given that $-\sqrt{64}$

Now we have to check whether it is rational or irrational

Since, $-\sqrt{64} = -8$

So it is a rational number

(vi) Given that $\sqrt{100}$

Now we have to check whether it is rational or irrational

Since, $\sqrt{100} = 10$

So it is rational number

********** END **********