

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

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

## So it is an irrational number

(iii) Given number is √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 \*\*\*\*\*\*\*