RD SHARMA

Solutions

Class 9 Maths

Chapter 1

Ex *1.3*

Q1. Express each of the following decimals in the form of rational number.

(i) 0.39

(ii) 0.750

(iii) 2.15

(iv) 7.010

(v) 9.90

(vi) 1.0001

Solution:

(i) Given,

$0.39 = \frac{39}{100}$

(ii) Given,

$0.750 = \frac{750}{1000}$

(iii) Given,

$2.15 = \frac{215}{100}$ (iv) Given,9.101

(iv) Given,

$7.010 = \frac{7010}{1000}$

(v) Given,

$9.90 = \frac{990}{100}$

(vi) Given,

$1.0001 = \frac{10001}{10000}$

Q2. Express each of the following decimals in the form of rational number ($\frac{p}{q}$)

(i) $0.\overline{4}$

(ii) $0.\overline{37}$

Solution:

(i) Let x = $0.\overline{4}$

Then, x = $0.\overline{4}$ = 0.444…   ___ (a)

Multiplying both sides of equation (a) by 10, we get,

10x = 4.44….   ___ (b)

Subtracting equation (1) by (2)

$9x = 4$

$x = \dfrac{4}{9}$

Hence, $0.\overline{4} = x = \dfrac{4}{9}$

(ii) Let $x = 0.\overline{37}$

Then, $x = 0.\overline{37} = 0.3737\ldots$ _____ (a)

Multiplying both sides of equation (a) by 100, we get,

$100\,x = 37.37\ldots.$ _____ (b)

Subtracting equation (1) by (2)

$99\,x = 37$

$x = \dfrac{37}{99}$

Hence, $0.\overline{37} = x = \dfrac{37}{99}$