

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,

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

(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, $x = 0.\overline{4} = 0.444\ldots$ ____ (a)

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

$10x = 4.44\ldots$ ____ (b)

Subtracting equation (1) by (2)

$$9x = 4$$

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

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

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

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

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

$$100x = 37.37\ldots \quad \text{--- (b)}$$

Subtracting equation (1) by (2)

$$99x = 37$$

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

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