RD SHARMA

Solutions

Class 9 Maths

Chapter 1

Ex *1.2*

Q1. Express the following rational numbers as decimals:

(i) $\frac{42}{100}$

(ii) $\frac{327}{500}$

(iii) $\frac{15}{4}$

Solution:

(i) By long division method

100) $\overline{42}$ (0.42

400

$\overline{200}$

200

$\overline{0}$

Therefore, $\frac{42}{100}$ = 0.42

(ii) By long division method

500) $\overline{327.000}$ (0.654

3000

$\overline{2700}$

2500

$\overline{2000}$

2000

$\overline{0}$

Therefore, $\frac{327}{500}$ = 0.654

(iii) By long division method

4) $\overline{15.00}$ (3.75

12

$\overline{30}$

28

$\overline{20}$

20

$\overline{0}$

Therefore, $\frac{15}{4}$ = 3.75

Q2. Express the following rational numbers as decimals:

(i) $\frac{2}{3}$

(ii) $-\frac{4}{9}$

(iii) $-\frac{2}{15}$

(iv) $-\frac{22}{13}$

(v) $\frac{437}{999}$

Solution:

(i) By long division method

$$3) \overline{2.0000} \, (\, 0.66$$

18
___
20
18
___
2

Therefore, $\frac{2}{3}$ = 0.66

(ii) By long division method

$$9) \overline{4.000} \, (\, 0.444$$

3600
___
4000
3600
___
4000
3600
___
400

Therefore, $-\frac{4}{9}$ = − 0.444

(iii) By long division method

$$15) \overline{2.00} \, (\, 1.333$$

15
___
50
45
___
50
45

$\overline{50}$

45

$\overline{5}$

Therefore, $\frac{2}{15}$ = -1.333

(iv) By long division method

13) $\overline{22.000}$ (1.69230769

13

$\overline{90}$

78

$\overline{120}$

117

$\overline{30}$

26

$\overline{40}$

39

$\overline{100}$

91

$\overline{90}$

78

$\overline{120}$

117

$\overline{3}$

Therefore, $-\frac{22}{13}$ = $-$ 1.69230769

(v) By long division method

999) $\overline{437.0000}$ (0.43743

3996

$\overline{3740}$

2997

$\overline{7430}$

6993

$\overline{4370}$

3996

$\overline{3740}$

2997

$\overline{743}$

Therefore, $\dfrac{437}{999}$ = 0.43743

Q3. Look at several examples of rational numbers in the form of

$\dfrac{p}{q}$ **(q ≠ 0), where p and q are integers with no**

common factor other than 1 and having terminating decimal

representations. Can you guess what property q must satisfy?

Solution:

A rational number $\dfrac{p}{q}$ is a terminating decimal

only, when prime factors of q are q and 5 only. Therefore,

$\dfrac{p}{q}$ is a terminating decimal only, when prime

factorization of q must have only powers of 2 or 5 or both.