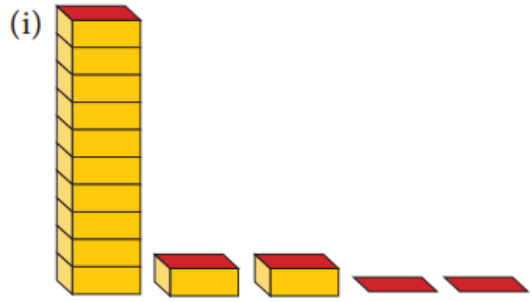
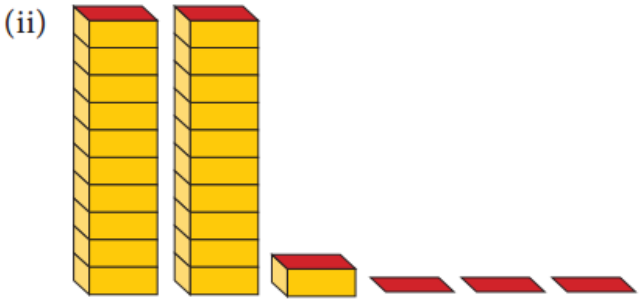
Chapter 1

Number System

Ex 1.1

Question 1.
Write the decimal numbers for the following pictorial representation of numbers.

(i) 

(ii) 

Solution:
(i) Tens 2 ones 2 tenths = 12.2
(ii) Tens 1 ones 3 tenths = 21.3

Question 2.
Express the following in cm using decimals.
(i) 5 mm
(ii) 9 mm
(iii) 42 mm
(iv) 8 cm 9 mm
(v) 375 mm

Solution:
(i) 5 mm
1 mm = 110 cm = 0.1 cm
5 mm = 510 = 0.5 cm

(ii) 9 mm
1 mm = 110 cm = 0.1 cm
9 mm = 910 cm = 0.9 cm

(iii) 42 mm
1 mm = 110 cm = 0.1 cm
42 mm = 4210 cm = 4.2 cm

(iv) 8 cm 9 mm
1 mm = 110 cm = 0.1 cm
8 cm 9 mm = 8 cm + 910 cm = 8.9 cm

(v) 375 mm
1 mm = 110 cm = 0.1 cm
375 mm = 37510 cm = 37.5 cm

Question 3.
Express the following in metres using decimals.
(i) 16 cm
(ii) 7 cm
(iii) 43 cm
(iv) 6 m 6 cm
(v) 2 m 54 cm

Solution:
(i) 16 cm
1 cm = 1100 cm = 0.01 m
16 cm = 16100 m = 0.16 m

(ii) 7 cm
1 cm = 1100 cm = 0.01 m
1 cm = 7100 m = 0.07 m

(iii) 43 cm
1 cm = 1100 cm = 0.01 m
43 cm = 43100 m = 0.43 m

(iv) 6 m 6 cm
1 cm = 110 m = 0.01 m
6 m 6 cm = 6 m + 6100 m = 6 m + 0.06 m = 6.06 m

(v) 2 mm 54 cm
1 cm = 1100 cm = 0.01 m
2 m 54 cm = 2 m + 54100 m = 2 m + 0.54 m = 2.54 m

Question 4.
Expand the following decimal numbers.
(i) 37.3
(ii) 658.37
(iii) 237.6
(iv) 5678.358

Solution:
(i) $37.3 = 30 + 7 + 310 = 3 \times 10^1 + 7 \times 10^0 + 3 \times 10^{-1}$

(ii) $658.37 = 600 + 50 + 8 + 310 + 7100$
$= 6 \times 10^2 + 5 \times 10^1 + 8 \times 100 + 3 \times 10^{-1} + 7 \times 10^{-2}$

(iii) $237.6 = 200 + 30 + 7 + 610$
$= 2 \times 10^2 + 3 \times 10^1 + 7 \times 10^0 + 6 \times 10^{-1}$

(iv) $5678.358 = 5000 + 600 + 70 + 8 + 310 + 5100 + 81000$
$= 5 \times 10^3 + 6 \times 10^2 + 7 \times 10^1 + 8 \times 10^0 + 3 \times 10^{-1} + 5 \times 10^{-2} + 8 \times 10^{-3}$

Question 5.
Express the following decimal numbers in place value grid and write the place value of the underlined digit.
(i) 53.61
(ii) 263.271
(iii) 17.39
(iv) 9.657
(v) 4972.068

Solution:
(i) 53.61

	Tens	Ones	Tenths	Hundredths	
53.61	5	3	6	1	Place value of 6 is $\frac{6}{10}$

(ii) 263.271

	Hundredths	Tens	Ones	Tenths	Hundredths	Thousandths	
263.271	2	6	3	2	7	1	Place value of 2 in 263.271 is $\frac{2}{10}$

(iii) 17.39

	Tens	Ones	Tenths	Hundredths	
17.39	1	7	3	9	Place value of 9 in 17.39 is $\frac{9}{100}$

(iv) 9.657

	Ones	Tenths	Hundreds	Thousandths	
9.657	9	6	5	7	Place value of 5 is 9.657 is $\frac{5}{100}$

(v) 4972.068

	Thou sands	Hund redths	Tens	Ones	Tenths	Hund redths	Thou sandths	Place value of 8 is 4972.068 is $\frac{8}{1000}$
4972.06$\underline{8}$	4	9	7	2	0	6	$\underline{8}$	

Objective Type Questions

Question 6.
The place value of 3 in 85.073 is ____
(i) tenths
(ii) hundredths
(iii) thousands
(iv) thousandths

Answer:
(iv) thousandths
Hint: 1000 g = 1 kg; 1 g = 11000 kg

Question 7.
To convert grams into kilograms, we have to divide it by
(i) 10000
(ii) 1000
(iii) 100
(iv) 10

Answer:
(ii) 1000
Hint: 85.073 = 8 × 10 + 5 × 1 + 0 × 110 + 7 × 1100 + 3 × 11000

Question 8.
The decimal representation of 30 kg and 43 g is ___ kg.
(i) 30.43
(ii) 30.430
(iii) 30.043
(iv) 30.0043

Answer:
(iii) 30.043
Hint: 30 kg and 43 g = 30 kg + 431000 kg = 30 + 0.043 = 30.043

Question 9.
A cricket pitch is about 264 cm wide. It is equal to ____ m.

(i) 26.4
(ii) 2.64
(iii) 0.264
(iv) 0.0264

Answer:
(ii) 2.64

Hint: 264 cm = 264100 m = 2.64 m

Ex 1.2

Question 1.
Fill in the following place value table.

S. No.	Decimal form	Hundreds (100)	Tens (10)	Ones (1)	Tenths $\left(\frac{1}{10}\right)$	Hundredths $\left(\frac{1}{100}\right)$	Thousandths $\left(\frac{1}{1000}\right)$
1.	320.157	3	___	0	1	5	7
2.	103.709	1	0	3	___	0	9
3.	4.003	0	0	4	0	___	___
4.	360.805	3	___	___	8	0	___

Answer:

S. No.	Decimal form	Hundred (100)	Tens (10)	Ones (1)	Tenths $\left(\frac{1}{10}\right)$	Hundredths $\left(\frac{1}{100}\right)$	Thousandths $\left(\frac{1}{1000}\right)$
1.	320.157	3	2	0	1	5	7
2.	103.709	1	0	3	7	0	9
3.	4.003	0	0	4	0	0	3
4.	360.805	3	6	0	8	0	5

Question 2.
Write the decimal numbers from the following place value table.

S. No.	Hundreds (100)	Tens (10)	Ones (1)	Tenths $\left(\frac{1}{10}\right)$	Hundredths $\left(\frac{1}{100}\right)$	Thousandths $\left(\frac{1}{1000}\right)$	Decimal form
1.	8	0	1	5	6	2	___
2.	9	3	2	0	5	6	___
3.	0	4	7	5	0	9	___
4.	5	0	3	0	0	7	___
5.	6	8	0	3	1	0	___
6.	1	0	9	9	0	8	___

Answer:

S. No.	Hundred (100)	Tens (10)	Ones (1)	Tenths $\left(\frac{1}{10}\right)$	Hundredths $\left(\frac{1}{100}\right)$	Thousandths $\left(\frac{1}{1000}\right)$	Decimal form
1.	8	0	1	5	6	2	801.562
2.	9	3	2	0	5	6	932.056
3.	0	4	7	5	0	9	47.509
4.	5	0	3	0	0	7	503.007
5.	6	8	0	3	1	0	680.310
6.	1	0	9	9	0	8	109.908

Question 3.
Write the following decimal numbers in the place value table.
(i) 25.178
(ii) 0.025
(iii) 428.001
(iv) 173.178
(v) 19.54

Solution:
(i) 25.178

Tens	Ones	Tenth	Hundredths	Thousandths
2	5	1	7	8

(ii) 0.025

Ones	Tenths	Hundredths	Thousandths
0	0	2	5

(iii) 428.001

Hundredths	Tens	Ones	Tenths	Hundredths	Thousandths
4	2	8	0	0	1

(iv) 173.178

Hundredths	Tens	Ones	Tenths	Hundredths	Thousandths
1	7	3	1	7	8

(v) 19.54

Tens	Ones	Tenths	Hundredths
1	9	5	4

Question 4.

Write each of the following as decimal numbers.

(i) $20 + 1 + \frac{2}{10} + \frac{3}{100} + \frac{7}{1000}$

(ii) $3 + \frac{8}{10} + \frac{4}{100} + \frac{5}{1000}$

(iii) $6 + \frac{0}{10} + \frac{0}{100} + \frac{9}{1000}$

(iv) $900 + 50 + 6 + \frac{3}{100}$

(v) $\frac{6}{10} + \frac{3}{100} + \frac{1}{1000}$

Solution:

(i) $20 + 1 + \frac{2}{10} + \frac{3}{100} + \frac{7}{1000} = 21 + 2 \times \frac{1}{10} + 3 \times \frac{1}{100} + 7 \times \frac{1}{1000} = 21.237$

(ii) $3 + \frac{8}{10} + \frac{4}{100} + \frac{5}{1000} = 3 + 8 \times \frac{1}{10} + 4 \times \frac{1}{100} + 5 \times \frac{1}{1000} = 3.845$

(iii) $6 + \frac{0}{10} + \frac{0}{100} + \frac{9}{1000} = 6 + 0 \times \frac{1}{10} + 0 \times \frac{1}{100} + 9 \times \frac{1}{1000} = 6.009$

(iv) $900 + 50 + 6 + \frac{3}{100} = 956 + 0 \times \frac{1}{10} + 3 \times \frac{1}{100} = 956.03$

(v) $\frac{6}{10} + \frac{3}{100} + \frac{1}{1000} = 6 \times \frac{1}{10} + 3 \times \frac{1}{100} = 0.631$

Question 5.

Convert the following fractions into decimal numbers.

(i) $\frac{3}{10}$

(ii) $3\ \frac{1}{2}$

(iii) $3\ \frac{3}{5}$

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

(v) $\frac{4}{5}$

(vi) $\frac{99}{100}$

(vii) $3\ \frac{19}{25}$

Solution:

(i) $\frac{3}{10} = 0.3$

(ii) $3\ \frac{1}{2} = \frac{7}{2} = \frac{7\times5}{2\times5} = \frac{35}{10} = 3.5$

(iii) $3\ \frac{3}{5} = \frac{18}{5} = \frac{18\times2}{5\times2} = \frac{36}{10} = 3.6$

(iv) $\frac{3}{2} = \frac{3\times5}{2\times5} = \frac{15}{10} = 1.5$

(v) $\frac{4}{5} = \frac{4\times2}{5\times2} = \frac{8}{10} = 0.8$

(vi) $\frac{99}{100} = 0.99$

(vii) $3\ \frac{19}{25} = \frac{94}{25} = \frac{94\times4}{25\times4} = \frac{376}{100} = 3.76$

Question 6.

Write the following decimals as fractions.

(i) 2.5

(ii) 6.4

(iii) 0.75

Solution:

(i) $2.5 = 2 + \frac{5}{10} = \frac{25}{10}$

(ii) $6.4 = 6 + \frac{4}{10} = \frac{64}{10}$

(iii) $0.75 = 0 + \frac{7}{10} + \frac{5}{100} = \frac{70+5}{100} = \frac{75}{100}$

Question 7.

Express the following decimals as fractions in lowest form.

(i) 2.34

(ii) 0.18

(iii) 3.56

Solution:

(i) $2.34 = 2 + \frac{34}{100} = 2 + \frac{34 \div 2}{100 \div 2} = 2 + \frac{17}{50} = 2\frac{17}{50} = \frac{117}{50}$

(ii) $0.18 = 0 + \frac{18}{100} = \frac{18 \div 2}{100 \div 2} = \frac{9}{50}$

(iii) $3.56 = 3 + \frac{56}{100} = 3 + \frac{56 \div 4}{100 \div 4} = 3 + \frac{14}{25} = 3\frac{14}{25} = \frac{89}{25}$

Question 8.

$3 + \frac{4}{100} + \frac{9}{1000} = ?$

(i) 30.49

(ii) 3049 9

(iii) 3.0049

(iv) 3.049

Answer:

(iv) 3.049

Hint: $= 3 \times 1 + \frac{0}{10} + \frac{4}{100} + \frac{9}{1000} = 3.049$

Question 9.

$\frac{3}{5} =$ _____

(i) 0.06

(ii) 0.006

(iii) 6

(iv) 0.6

Answer:

(iv) 0.6

Hint: $\frac{3}{5} = \frac{3 \times 2}{5 \times 2} = \frac{6}{10} = 0.06$

Question 10.

The simplest form of 0.35 is

(i) $\frac{35}{1000}$

(ii) $\frac{35}{10}$

(iii) $\frac{7}{20}$

(iv) $\frac{7}{100}$

Answer:

(iii) $\frac{7}{20}$

Hint: $0.35 = \frac{35}{100} = \frac{35 \div 5}{100 \div 5} = \frac{7}{20}$

Ex 1.3

Question 1.
Compare the following decimal numbers and find out the smaller number.
(i) 2.08,2.086
(ii) 0.99,1.9
(iii) 3.53,3.35
(iv) 5.05,5.50
(v) 123.5,12.35

Solution:
(i) 2.08, 2.086
Let us take 2.080, 2.086.
Comparing 2.08 and 2.086 the whole number part, tenths place digit and the digit in the hundredths place are equal.
Comparing the digits at thousandths place we get $0 < 6$.
Therefore $2.08 < 2.086$.
Smallest number is 2.08

(ii) 0.99, 1.9
Comparing 0.99 and 1.9.
First when we compare the digit in the whole number parts we get $0 < 1$.
$\therefore 0.99 < 1.9$ Smallest number is 0.99

(iii) 3.53,3.35
Comparing 3.53 and 3.35
Here the whole number parts of the given two numbers are equal.
Comparing the digits at tenths place, we get $3 < 5$

∴ 3.35 < 3.53
Smallest number is 3.35

(iv) 5.05, 5.50
Comparing 5.05 and 5.50
Here the whole number parts of the given two numbers are equal.
Comparing the digits at tenths place, we get 0 < 5.
∴ 5.5 < 5.50
Smallest number is 5.05

(v) 123.5, 12.35
Comparing 123.5 and 12.35.
Comparing the whole number parts, we get 12 < 123
∴ 12.35 < 123.5
Smallest number is 12.35

Question 2.
Arrange the following in ascending order.
(i) 2.35, 2.53, 5.32, 3.52, 3.25
(ii) 123.45, 123.54,125.43, 125.34,125.3

Solution:
(i) 2.35, 2.53, 5.32, 3.52, 3.25
Comparing the whole number parts of all the numbers 5 is the greatest and 5 > 3 > 2.
∴ Greatest number is 5.32
Next 3.52 and 3.25 are equal in their whole number.
So comparing their digits in tenths place, we get 5 > 2
So 3.52 > 3.25
Now comparing 2.35 and 2.53 their whole number parts also equal.
∴ Comparing the digit in tenths place we get
2.53 > 2.35 ……(2)
Ascending order :
2.35 < 2.53 < 3.25 < 3.52 < 5.32

(ii) 123.45, 123.54, 125.43, 125.34, 125.3
Comparing the whole number parts we have 123 is the smallest number and two numbers 123.45 and 123.54 have same whole number part.
So in 123.45 and 123.54 comparing their digits in the tenths place we get 4 < 5
∴ 123.45 < 123.54 …(1)
Now comparing the remaining numbers
125.43, 125.34, 125.3 they all have the same whole number part.
Comparing the numbers in the tenths place we have 3 < 4

∴ 125.43 is the greatest …(2)
Also tenths place value 3 = 3 in 125.34 and 125.3
Again comparing the hundredths place value in 125.34 and 125.3, we get
125.3 < 125.34 …(3)
From (1), (2) and (3) we have,
123.45 < 123.54 < 125.3 < 125.34 < 125.43

Question 3.
Compare the following decimal numbers and find the greater number.
(i) 24.5,20.32
(ii) 6.95,6.59
(iii) 17.3,17.8
(iv) 235.42,235.48
(v) 0.007,0.07
(vi) 4.571,4.578

Solution:
(i) 24.5, 20.32
Comparing the whole number part we get 24 > 20
∴ 24.5 > 20.32
greater number is 24.5

(ii) 6.95,6.59
Here the whole number part of given two numbers are equal.
Comparing the digits at tenths place we get 9 > 5.
∴ 6.95 > 6.59
Greater number is 6.95

(iii) 17.3,17.8
Here the whole number part of given two numbers are equal.
Comparing the digits at tenths place we get 8 > 3.
∴ 17.8 > 17.3
Greater number is 17.8

(iv) 235.42,235.48
Here the whole number part of given two numbers are equal.
Also the digits at tenths place also equal.
Comparing the digits at the hundredths place we get 8 > 4.
∴ 235.48 > 235.42
Greater number is 235.48

(v) 0.007,0.07
Here the whole number part of given two numbers are equal.
Also the digits at the tenths place also equal.

∴ Comparing the the digits at the hundredths place we get $7 > 0$.
$0.07 > 0.007$
greater number is 0.07.

(vi) 4.571,4.578
Here the whole number part of given two numbers are equal.
Also the digits at the tenths place and the hundredths place also equal.
Again comparing the digits in the thousandths place we get $8 > 1$.
∴ $4.578 > 4.571$
∴ Greater number is 4.578

Question 4.
Arrange the given decimal numbers in descending order.
(i) 17.35, 71.53, 51.73, 73.51,37.51
(ii) 456.73, 546.37, 563.47, 745.63 457.71

Solution:
(i) 17.35,71.53,51.73,73.51,37.51
Comparing the whole number parts of the given numbers we get
$73 > 71 > 51 > 37 > 17$.
Descending order:
73.51,71.53,51.73,37.51, 17.35

(ii) 456.73, 546.37, 563.47, 745.63 457.71
Comparing the whole number parts of the given numbers from left to right we get
$745 > 563 > 546 > 457 > 456$
Descending Order: 745.63, 563.47, 546.37, 457.71, 456.73

Objective Question

Question 5.
0.009 is equal to
(i) 0.90
(ii) 0.090
(iii) 0.00900
(iv) 0.900

Answer:
(iii) 0.00900

Question 6.
37.70 [ ] 37.7
(i) =

(ii) <
(iii) >
(iv) ≠

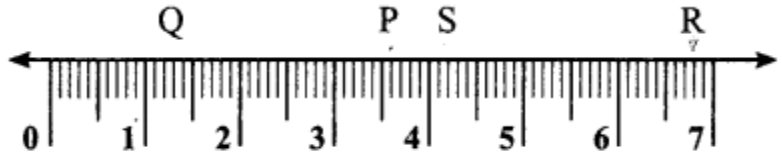
Answer:
(i) =

Question 7.
78.56 [ ] 78.57
(i) <
(ii) >
(iii) =
(iv) ≠

Answer:
(i) <

Ex 1.4

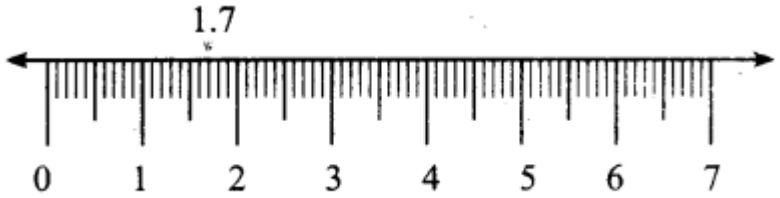
Question 1.
Write the decimal numbers represented by the points P, Q, R and S on the given number line.



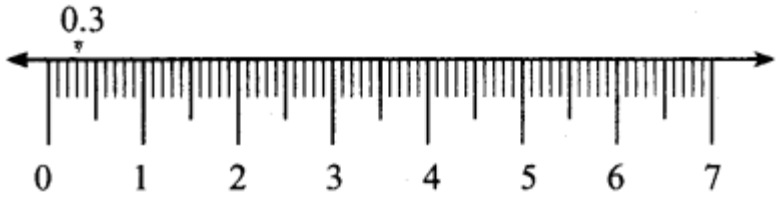
Solution:
The unit length between 1 and 2 is divided into 10 equal parts and the third part is taken as Q.
∴ Q represents 1 + 0.3 = 1.3
The unit lenth between 3 and 4 is divided into 10 equal parts and the 6th part is taken as P.
∴ P represents 3 + 0.6 = 3.6
The unit length between 4 and 5 is divied into 10 equal parts and the second part is taken as S.
∴ S represents 4 + 0.2 = 4.2
The unit length between 6 and 7 is divided into 10 equal parts and the 8th part is taken.
∴ R represents 6 + 0.8 = 6.8
P(3.6), Q(1.3), R(6.8), S(4.2).

Question 2.
Represent the following decimal numbers on the number line.
(i) 1.7
(ii) 0.3
(iii) 2.1

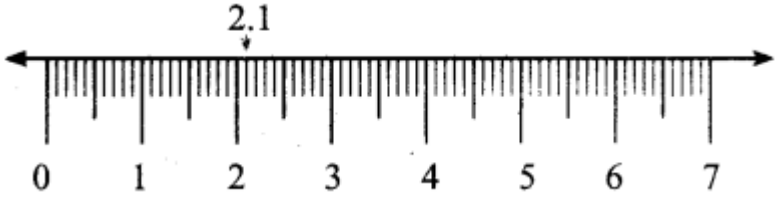
Solution:
(i) 1.7
We know that 1.7 is more than 1, but less than 2.
There are one ones and 7 tenths in it. Divide the unit length between 1 and 2 on the number line into 10 equal parts and take 7 parts which represents 1.7
$= 1 + 0.7$



(ii) 0.3
We know that 0.3 is more than 0, but less than 1.
There are 3 tenths in it. Divide the unit lenght between 0 and 1 on the number line into 10 equal parts and take 3 parts, which represent 0.3.



(iii) 2.1
We knowthat 2.1 is more than 2 and less than 3.
There are 2 ones and 1 tenths in it.
Divide the unit length between 2 and 3 into 10 equal parts and take 1 part, which represemt $2.1 = 2 + 0.1$



Question 3.
Between which two whole numbers, the following decimal numbers lie?
(i) 3.3

(ii) 2.5
(iii) 0.9

Solution:
(i) 3.3 – 3.3 lies between 3 and 4.
(ii) 2.5 – 2.5 lies between 2 and 3.
(iii) 0.9 – 0.9 lies between 0 and 1.

Question 4.
Find the greater decimal number in the following.
(i) 2.3,3.2
(ii) 5.6,6.5
(iii) 1.2,2.1

Solution:
(i) 2.3, 3.2
Comparing the whole number parts of 2.3 and 3.2 we get $3 > 2$.
$3.2 > 2.3$ – Greater number is 3.2

(ii) 5.6, 6.5
Comparing the whole number parts of 5.6 and 6.5, we get $6 > 5$.
$6.5 > 5.6$ – Greater number is 6.5

(iii) 1.2, 2.1
Comparing the whole number parts of 1.2 and 2.1, we get $2 > 1$.
$2.1 > 1.2$ – Greater number is 2.1

Question 5.
Find the smaller decimal number in the following.
(i) 25.3,25.03
(ii) 7.01,7.3
(iii) 5.6,6.05

Solution:
(i) 25.3, 25.03
The whole number parts of both the numbers are equal.
∴ Comparing the digits at tenths place we get $0 < 3$.
∴ $25.03 < 25.3$ – Smaller number 25.03

(ii) 7.01,7.3
The whole number parts of both the numbers are equal.
Comparing the digits at tenths place we get $0 < 3$.
∴ $7.01 < 7.3$ – Smaller number is 7.01.

(iii) 5.6, 6.05
Comparing the whole number parts, we get $5 < 6$.
$\therefore 5.6 < 6.05$ – Smaller number is 5.6

Objective Question

Question 6.
Between which two whole numbers 1.7 lie?
(i) 2 and 3
(ii) 3 and 4
(iii) 1 and 2

Answer:
(iii) 1 and 2

Question 7.
The decimal number which lies between 4 and 5 is _____
(i) 4.5
(ii) 2.9
(iii) 1.9

Answer:
(i) 4.5

Ex 1.5

Question 1.
Write the following decimal numbers in the place value table.
(i) 247.36
(ii) 132.105

Solution:
(i) 247.36

247.36	Hundreds	Tens	Ones	Tenths	Hundredths
	2	4	7	3	6

(ii) 132.105

132.105	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
	1	3	2	1	0	5

Question 2.
Write each of the following as decimal number.
(i) $300 + 5 + \frac{7}{10} + \frac{9}{100} + \frac{2}{100}$
(ii) $1000 + 400 + 30 + 2 + \frac{6}{10} + \frac{7}{100}$

Solution:
(i) $300 + 5 + 710 + 9100 + 2100 = 305.792$
(ii) $1000 + 400 + 30 + 2 + 610 + 7100 = 1432.67$

Question 3.
Which is greater?
(i) 0.888 (or) 0.28
(ii) 23.914 (or) 23.915

Solution:
(i) 0.888 (or) 0.28
The whole number parts is equal for both the numbers.
Comparing the digits in the tenths place we get, $8 > 2$.
$0.888 > 0.28 \therefore$ 0.888 is greater.

(ii) 23.914 or 23.915
The whole number part is equal in both the numbers.
Also the tenth place and hundredths place are also equal.
$\therefore$ Comparing the thousandths place, we get $5 > 4$.
$23.915 > 23.914 \therefore$ 23.915 is greater.

Question 4.
In a 25 m swimming competition, the time taken by 5 swimmers A, B, C, D and E are 15.7 seconds, 15.68 seconds, 15.6 seconds, 15.74 seconds and 15.67 seconds respectively. Identify the winner.

Solution:
The winner is one who took less time for swimming 25 m.
Comparing the time taken by A, B, C, D, E the whole number part is equal for all participants.
Comparing digit in tenths place we get $6 < 7$.
$\therefore$ Comparing 15.68, 15.6, 15.67, that is comparing the digits in hundredths place we get $15.60 < 15.67 < 15.68$
One who took 15.6 seconds is the winner. $\therefore$ C is the winner.

Question 5.

Convert the following decimal numbers into fractions

(i) 23.4

(ii) 46.301

Solution:

(i) $23.4 = \frac{234}{10} = \frac{234 \div 2}{10 \div 2} = \frac{117}{5}$

(ii) $46.301 = \frac{46301}{1000}$

Question 6.

Express the following in kilometres using decimals,

(i) 256 m

(ii) 4567 m

Solution:

$1\ m = \frac{1}{1000}\ km = 0.001\ Km$

(i) $256\ m = \frac{256}{1000}\ km = 0.256\ km$

(ii) $4567\ m = \frac{4567}{1000}\ km = 4.567\ km$

Question 7.

There are 26 boys and 24 girls in a class. Express the fractions of boys and girls as decimal numbers.

Solution:

Boys = 26; Girls = 24; Total = 50

Fraction of boys $= \frac{26}{50} = \frac{26 \times 2}{50 \times 2} = \frac{52}{100} = 0.52$

Fraction of girls $= \frac{24}{50} = \frac{24 \times 2}{50 \times 2} = \frac{48}{100} = 0.48$

Challenge Problems

Question 8.
Write the following amount using decimals.
(i) 809 rupees 99 paise
(ii) 147 rupees 70 paise

Solution:
100 paise = 1 rupee; 1 paise = 1/100 rupee

(i) 809 rupees 99 paise = 809 rupees + 99/100 rupees
= 809 + 0.99 rupees = ₹ 809.99

(ii) 147 rupees 70 paise = 147 rupees + 70/100 rupees
= 147 rupees + 0.70 rupees = ₹ 147.70

Question 9.
Express the following in metres using decimals.
(i) 1328 cm
(ii) 419 cm

Solution:
100 cm = 1 m; 1 cm = 1/100 m
(i) 1328 cm = 1328/100 m = 13.28 m
(ii) 419 cm = 419/100 m = 4.19 m

Question 10.
Express the following using decimal notation.
(i) 8 m 30 cm in metres
(ii) 24 km 200 m in kilometres

Solution:
(i) 8 m 30 cm in metres
8 m + 30/100 m = 8 m + 0.30 m = 8.30 m

(ii) 24 km 200 m in kilometres
24 km + 200/1000 km = 24 km + 0.200 km = 24.200 km

Question 11.
Write the following fractions as decimal numbers.
(i) 23/10000
(ii) 421/100
(iii) 37/10

Solution:
(i) 23/10000 = 0.0023
(ii) 421/100 = 4.21
(iii) 37/10 = 3.7

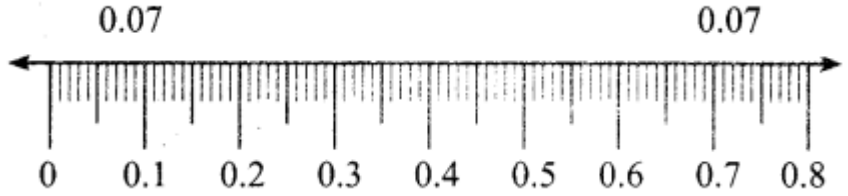
Question 12.
Convert the following decimals into fractions and reduce them to the lowest form,
(i) 2.125
(ii) 0.0005

Solution:
(i) $2.125 = 2125/1000 = 2125 \div 25/1000 \div 25 = 8540 = 85 \div 5/40 \div 5 = 17/8$

(ii) $0.0005 = 5/1000 = 5 \div 5/10000 \div 5 = 1/2000$

Question 13.
Represent the decimal numbers 0.07 and 0.7 on a number line.

Solution:



0.07 lies between 0.0 and 0.1
The unit space between 0 and 0.1 is divided into 10 equal parts and 7th part is taken. Also 0.7 lies between 0 and 1.
The unit space between 0 and 1 is divided into 10 equal parts, and the 7th part is taken.

Question 14.
Write the following decimal numbers in words.
(i) 4.9
(ii) 220.0
(iii) 0.7
(iv) 86.3

Solution:
(i) 4.9 = Four and nine tenths
(ii) 220.0 = Two hundred and twenty
(iii) 0.7 = Seven tenths
(iv) 86.3 = Eighty six and three tenths.

Question 15.
Between which two whole numbers the given numbers lie?
(i) 0.2
(ii) 3.4
(iii) 3.9
(iv) 2.7
(v) 1.7
(vi) 1.3

Solution:
(i) 0.2 lies between 0 and 1.

(ii) 3.4 lies between 3 and 4.
(iii) 3.9 lies between 3 and 4.
(iv) 2.7 lies between 2 and 3.
(v) 1.7 lies between 1 and 2.
(vi) 1.3 lies between 1 and 2.

Question 16.
By how much is 9/10 km less than 1 km. Express the same in decimal form.

Solution:
Given measures are 1 km and 9/10 km. i.e., 1 km and 0.9 km.
Difference = 1.0 – 0.9 = 0.1 km.