Step 3. *If the whole-number parts are equal, compare the tenths digits.*
The decimal with the bigger digit in the tenths place is greater.

Step 4. *If the tenths digits are also equal, compare the hundredths digits, and so on.*

The following examples will make the ideas more clear.

EXAMPLE 3. *Compare* 63.84 *and* 57.98.

Solution The given decimals are 63.84 and 57.98.
Let us compare their whole-number parts.
Clearly, $63 > 57$.
$\therefore \quad 63.84 > 57.98$.

EXAMPLE 4. *Compare* 24.7 *and* 24.58.

Solution Converting the given decimals into like decimals, they become 24.70 and 24.58.
The whole-number parts of these numbers are equal.
So, we compare their tenths digits.
Clearly, 7 tenths > 5 tenths.
$\therefore \quad 24.70 > 24.58$.
Hence, $24.7 > 24.58$.

EXAMPLE 5. *Write the following decimals in ascending order:*
4.83, 6.07, 0.9, 0.465 *and* 7.4.

Solution Converting the given decimals into like decimals, we get them as
4.830, 6.070, 0.900, 0.465 and 7.400.
Clearly, $0.465 < 0.900 < 4.830 < 6.070 < 7.400$.
$\therefore \quad 0.465 < 0.9 < 4.83 < 6.07 < 7.4$.
Hence, the given decimals in ascending order are:
0.465, 0.9, 4.83, 6.07 and 7.4.

EXERCISE 7A

1. Write each of the following in figures:
   (i) Fifty-eight point six three
   (ii) One hundred twenty-four point four two five
   (iii) Seven point seven six
   (iv) Nineteen point eight
   (v) Four hundred four point zero four four
   (vi) Point one seven three
   (vii) Point zero one five

2. Write the place value of each digit in each of the following decimals:
   (i) 14.83 (ii) 275.269 (iii) 46.075
   (iv) 302.459 (v) 5370.34 (vi) 186.209

3. Write each of the following decimals in expanded form:
   (i) 67.83 (ii) 283.61 (iii) 24.675
   (iv) 0.294 (v) 8.006 (vi) 4615.72

4. Write each of the following in decimal form:
   (i) $40 + 6 + \frac{7}{10} + \frac{9}{100}$ (ii) $500 + 70 + 8 + \frac{3}{10} + \frac{1}{100} + \frac{6}{1000}$

(iii) $700 + 30 + 1 + \frac{8}{10} + \frac{4}{100}$ (iv) $600 + 5 + \frac{7}{100} + \frac{9}{1000}$

(v) $800 + 5 + \frac{8}{10} + \frac{6}{1000}$ (vi) $30 + 9 + \frac{4}{100} + \frac{8}{1000}$

5. Convert each of the following into like decimals:

(i) 7.5, 64.23, 0.074 (ii) 0.6, 5.937, 2.36, 4.2

(iii) 1.6, 0.07, 3.58, 2.9 (iv) 2.5, 0.63, 14.08, 1.637

6. Fill in each of the place holders with the correct symbol > or <:

(i) 84.23 ☐ 76.35 (ii) 7.608 ☐ 7.68

(iii) 8.34 ☐ 8.43 (iv) 12.06 ☐ 12.006

(v) 3.85 ☐ 3.805 (vi) 0.97 ☐ 1.07

7. Arrange the following decimals in ascending order:

(i) 5.8, 7.2, 5.69, 7.14, 5.06 (ii) 0.6, 6.6, 6.06, 66.6, 0.06

(iii) 6.54, 6.45, 6.4, 6.5, 6.05 (iv) 3.3, 3.303, 3.033, 0.33, 3.003

8. Arrange the following decimals in descending order:

(i) 7.3, 8.73, 73.03, 7.33, 8.073 (ii) 3.3, 3.03, 30.3, 30.03, 3.003

(iii) 2.7, 7.2, 2.27, 2.72, 2.02, 2.007 (iv) 8.88, 8.088, 88.8, 88.08, 8.008

CONVERTING A DECIMAL INTO A FRACTION

METHOD: Step 1. *Write the given decimal without the decimal point as the numerator of the fraction.*

Step 2. *In the denominator, write* 1 *followed by as many zeros as there are decimal places in the given decimal.*

Step 3. *Convert the above fraction to the simplest form.*

The following examples will make the ideas more clear.

EXAMPLE 1. *Convert each of the following decimals into a fraction in its simplest form:*
(i) .4 *(ii)* .25 *(iii)* 0.06 *(iv)* .075 *(v)* 0.625

Solution We have:

(i) $.4 = \frac{4^{2}}{10_{5}} = \frac{2}{5}$.

(ii) $.25 = \frac{25^{1}}{100_{4}} = \frac{1}{4}$.

(iii) $0.06 = \frac{6^{3}}{100_{50}} = \frac{3}{50}$.

(iv) $.075 = \frac{75^{3}}{1000_{40}} = \frac{3}{40}$.

(v) $0.625 = \frac{625^{25^{5}}}{1000_{40_{8}}} = \frac{5}{8}$.

EXAMPLE 2. *Convert each of the following decimals as a mixed fraction:*
(i) 7.5 *(ii)* 24.8 *(iii)* 13.25 *(iv)* 6.375

(v) 9 paise = ₹ $\frac{9}{100}$ = ₹ 0.09.

(vi) 104 paise = ₹ $\frac{104}{100}$ = ₹ 1.04.

EXERCISE 7B

Convert each of the following into a fraction in its simplest form:

1. .9 **2.** 0.6 **3.** .08 **4.** 0.15

5. 0.48 **6.** .053 **7.** 0.125 **8.** .224

Convert each of the following as a mixed fraction:

9. 6.4 **10.** 16.5 **11.** 8.36 **12.** 4.275

13. 25.06 **14.** 7.004 **15.** 2.052 **16.** 3.108

Convert each of the following into a decimal:

17. $\frac{23}{10}$ **18.** $\frac{167}{100}$ **19.** $\frac{1589}{100}$ **20.** $\frac{5413}{1000}$

21. $\frac{21415}{1000}$ **22.** $\frac{25}{4}$ **23.** $3\frac{3}{5}$ **24.** $1\frac{4}{25}$

25. $5\frac{17}{50}$ **26.** $12\frac{3}{8}$ **27.** $2\frac{19}{40}$ **28.** $\frac{19}{20}$

29. $\frac{37}{50}$ **30.** $\frac{107}{250}$ **31.** $\frac{3}{40}$ **32.** $\frac{7}{8}$

33. Using decimals, express
(i) 8 kg 640 g in kilograms
(ii) 9 kg 37 g in kilograms
(iii) 6 kg 8 g in kilograms

34. Using decimals, express
(i) 4 km 365 m in kilometres
(ii) 5 km 87 m in kilometres
(iii) 3 km 6 m in kilometres
(iv) 270 m in kilometres
(v) 35 m in kilometres
(vi) 6 m in kilometres

35. Using decimals, express
(i) 15 kg 850 g in kilograms
(ii) 8 kg 96 g in kilograms
(iii) 540 g in kilograms
(iv) 8 g in kilograms

36. Using decimals, express
(i) ₹ 18 and 25 paise in rupees
(ii) ₹ 9 and 8 paise in rupees
(iii) 32 paise in rupees
(iv) 5 paise in rupees

EXAMPLE 4. *Ramesh purchased a book, a pen and a notebook for ₹ 165.35, ₹ 72 and ₹ 14.8 respectively. How much money will he have to pay to the shopkeeper fo these items?*

Solution

Cost of a book = ₹ 165.35
Cost of a pen = ₹ 72.00
Cost of a notebook = ₹ 14.85
Total cost = ₹ 252.20

Total money to be paid by Ramesh = ₹ 252.20.

EXAMPLE 5. *The weight of an empty gas cylinder is 18 kg 75 g. The weight of the gas container in it is 12 kg 350 g. What is the total weight of the cylinder filled with gas?*

Solution

Weight of an empty cylinder = 18.075 kg
Weight of the gas filled in it = 12.350 kg
Total weight = 30.425 kg

Hence, the total weight of the cylinder filled with gas = 30.425 kg = 30 kg 425 g.

EXERCISE 7C

Add the following decimals:

1. 9.6, 14.8, 37 and 5.9
2. 23.7, 106.94, 68.9 and 29.5
3. 72.8, 7.68, 16.23 and 0.7
4. 18.6, 84.75, 8.345 and 9.7
5. 8.236, 16.064, 63.8 and 27.53
6. 28.9, 19.64, 123.697 and 0.354
7. 4.37, 9.638, 17.007 and 6.8
8. 14.5, 0.038, 118.573 and 6.84
9. During three days of a week, a rickshaw puller earns ₹ 32.60, ₹ 56.80 and ₹ 72 respectively. What is his total earning during these days?
10. A man purchases an almirah for ₹ 11025, gives ₹ 172.50 as its cartage and spends ₹ 64.80 on its repair. How much does the almirah cost him?
11. Ramesh covers 36 km 235 m by taxi, 4 km 85 m by rickshaw and 1 km 80 m on foot. What is the total distance covered by him?
12. A bag contains 45 kg 80 g of sugar and the mass of the empty bag is 950 g. What is the mass of the bag containing this much of sugar?
13. Ramu bought 2 m 70 cm cloth for his shirt and 2 m 60 cm cloth for his pyjamas. Find the total length of cloth bought by him.
14. Radhika bought 2 m 5 cm cloth for her salwar and 3 m 35 cm cloth for her shirt. Find the total length of cloth bought by her.

SUBTRACTION OF DECIMALS

METHOD: **Step 1.** *Convert the given decimals into like decimals.*
Step 2. *Write the smaller number under the larger one in column form in such a way that the decimal points of both the numbers are in the same column and the digits of the same place lie in the same column.*
Step 3. *Subtract as we do in case of whole numbers.*
Step 4. *In the difference, put the decimal point directly under the decimal points of the given numbers.*

The following examples will make the ideas more clear.

EXAMPLE 1. *Subtract 35.87 from 63.2.*

Solution Converting the given decimals into like decimals, we get 35.87 and 63.20.