8 Decimals

Learn and Remember

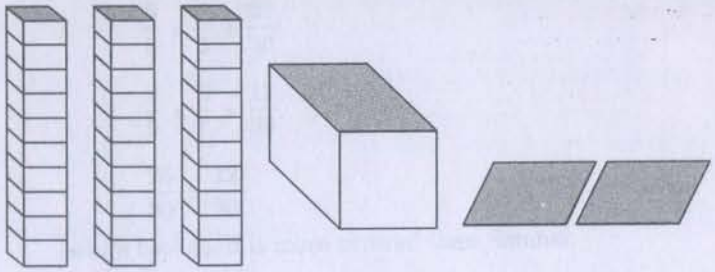
1. The Dot represent the decimal.
2. A fraction with denominator 10 can be written in decimal notation and vice-versa.
3. One block divided into 100 equal parts means each part is $\frac{1}{100}$ of a unit. It can be written as 0.01 in decimal notation.
4. Every fraction with denominator 100 can be written in decimal notation and vice-versa.
5. All decimals can be represented on number line.
6. Every decimal can be written as a fraction.
7. Any two decimal numbers can be compared among themselves. The comparison can start with the whole part. If the whole part is equal then the tenth part can be compared and so on.

TEXTBOOK QUESTIONS SOLVED

EXERCISE 8.1

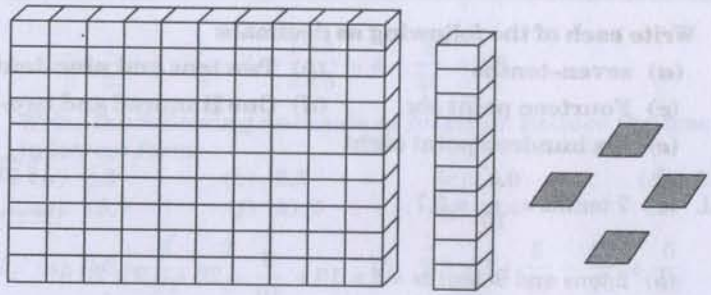
Q1. Write the following as numbers in the given table:

(*a*)



Tens Ones Tenths

(*b*)



Hundreds Tens Tenths

Hundreds (100)	**Tens** (10)	**Ones** (1)	**Tenths** $\left(\frac{1}{10}\right)$

Sol.

	Hundreds	Tens	Ones	Tenths	Number
a	0	3	1	2	31.2
b	1	1	0	4	110.4

Q2. Write the following decimals in the place value table:

(*a*) 19.4 (*b*) 0.3 (*c*) 10.6 (*d*) 205.9

Sol. (*a*)

Hundreds	Tens	Ones	Tenths
0	1	9	4

(*b*)

Hundreds	Tens	Ones	Tenths
0	0	0	3

(*c*)

Hundreds	Tens	Ones	Tenths
0	1	0	6

(*d*)

Hundreds	Tens	Ones	Tenths
2	0	5	9

Q3. Write each of the following as decimals:

(a) seven–tenths **(b) Two tens and nine–tenths**

(c) Fourteen point six **(d) One Hundred and two–ones**

(e) Six hundred point eight

Sol. (a) 7 tenths $= \frac{7}{10} = 0.7$

(b) 2 tens and 9–tenths $= 2 \times 10 + \frac{9}{10} = 20 + 0.9 = 20.9$

(c) Fourteen point six = 14.6

(d) One hundred and 2–ones $= 100 + 2 \times 1 = 102.0$

(e) Six hundred point eight = 600.8.

Q4. Write each of the following as decimals:

(a) $\frac{5}{10}$ **(b)** $3 + \frac{7}{10}$ **(c)** $200 + 60 + 5 + \frac{1}{10}$

(d) $70 + \frac{8}{10}$ **(e)** $\frac{88}{10}$ **(f)** $4\frac{2}{10}$

(g) $\frac{3}{2}$ **(h)** $\frac{2}{5}$ **(i)** $\frac{12}{5}$

(j) $3\frac{3}{5}$ **(k)** $4\frac{1}{2}$

Sol. (a) 0.5 (b) $3 + 0.7 = 3.7$

(c) 265.1 (d) $70 + 0.8 = 70.8$

(e) $\frac{88}{10} = \frac{80+8}{10} = \frac{8\cancel{0}}{1\cancel{0}} + \frac{8}{10}$ (f) $4\frac{2}{10} = 4 + \frac{2}{10} = 4.2$

$= 8 + \frac{8}{10} = 8.8$

(g) $\frac{3}{2} = \frac{3\times5}{2\times5} = \frac{15}{10} = \frac{10+5}{10}$ (h) $\frac{2}{5} = \frac{2\times2}{5\times2} = \frac{4}{10} = 0.4$

$= \frac{10}{10} + \frac{5}{10} = 1 + \frac{5}{10} = 1.5$

(i) $\frac{12}{5} = \frac{12\times2}{5\times2} = \frac{24}{10}$ (j) $3\frac{3}{5} = 3 + \frac{3}{5} = 3 + \frac{3\times2}{5\times2}$

$= \frac{20+4}{10} = \frac{2\cancel{0}}{1\cancel{0}} + \frac{4}{10}$ $= 3 + \frac{6}{10} = 3 + 0.6 = 3.6$

$= 2 + \frac{4}{10} = 2.4$

(k) $4\frac{1}{2} = 4 + \frac{1}{2} = 4 + \frac{1\times5}{2\times5} = 4 + \frac{5}{10} = 4.5.$

Q5. Write the following decimals as fraction. Reduce the fractions to lowest form:

(a) 0.6 **(b) 2.5** **(c) 1.0** **(d) 3.8**

(e) 13.7 **(f) 21.2** **(g) 6.4**

Sol. (a) $0.6 = \frac{\cancel{6}}{\cancel{10}} = \frac{3}{5}$

(b) $2.5 = 2 + \frac{5}{10} = \frac{20}{10} + \frac{5}{10}$

$= \frac{\cancel{25}}{\cancel{10}} = \frac{5}{2}$

(c) $1 + .0 = 1 + \frac{0}{10} = 1$

(d) $3.8 = 3 + \frac{8}{10} = \frac{30}{10} + \frac{8}{10}$

$= \frac{\cancel{38}}{\cancel{10}} = \frac{19}{5}$

(e) $13.7 = 13 + \frac{7}{10}$

$= \frac{130}{10} + \frac{7}{10} = \frac{137}{10}$

(f) $21.2 = 21 + \frac{2}{10}$

$= \frac{210}{10} + \frac{2}{10} = \frac{\cancel{212}}{\cancel{10}} = \frac{106}{5}$

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

$= \frac{60}{10} + \frac{4}{10} = \frac{64}{10} = \frac{32}{5}$

Q6. Express the following as cm using decimals:

(a) 2 mm **(b) 30 mm** **(c) 116 mm**

(d) 4 cm 2 mm **(e) 162 mm** **(f) 83 mm**

Sol. (a) 10 mm = 1 cm

1 mm $= \frac{1}{10}$ cm

2 mm $= \frac{1}{10} \times 2$ cm

$= \frac{2}{10}$ cm = 0.2 cm

(b) 10 mm = 1 cm

1 mm $= \frac{1}{10}$ cm

30 mm $= \left(\frac{1}{10} \times 30\right)$ cm

= 3 cm or 3.0 cm

(c) 10 mm = 1 cm

1 mm $= \frac{1}{10}$ cm

116 mm $= \frac{1}{10} \times 116$

(d) 4 cm 2 mm

= 4 cm + 2 mm

$= 4 \text{ cm} + \frac{2}{10}$ cm

$= \frac{116}{10}$ cm $= \frac{110+6}{10}$ cm $= 4.2$ cm

$= 11 + \frac{6}{10}$ cm $= 11.6$ cm

(*e*) 10 mm $= 1$ cm

$1 \text{ mm} = \frac{1}{10}$ cm

$162 \text{ mm} = \frac{1}{10} \times 162$

$= \frac{162}{10}$ cm $= \frac{160+2}{10}$

$= 16 + \frac{2}{10} = 16.2$ cm

(*f*) 83 mm

10 mm = 1 cm

$1 \text{ mm} = \frac{1}{10}$ cm

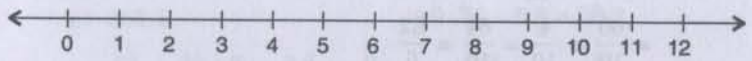
$= 83 \text{ mm} = \frac{1}{10} \times 83$

$= \frac{83}{10}$ cm $= \frac{80+3}{10}$ cm

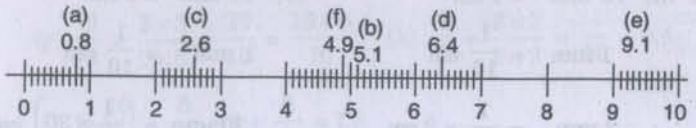
$= 8 + \frac{3}{10} = 8.3$ cm.

Q7. Between which two whole numbers on the number line are the given numbers lie? Which of these whole numbers is nearer the number?

(*a*) 0.8 (*b*) 5.1 (*c*) 2.6 (*d*) 6.4 (*e*) 9.1 (*f*) 4.9



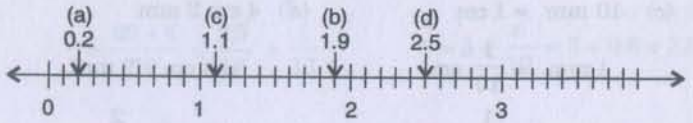
Sol. (*a*) from 0 to 1, 0.8 is nearest to 1. (*b*) from 5 to 6, 5.1 is nearest to 5.
(*c*) from 2 to 3, 2.6 is nearest to 3. (*d*) from 6 to 7, 6.4 is nearest to 6.
(*e*) from 9 to 10, 9.1 is nearest to 9. (*f*) from 4 to 5, 4.9 is nearest to 5.



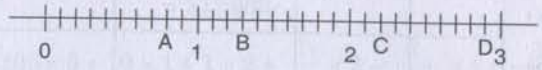
Q8. Show the following numbers on the number line:

(*a*) 0.2 (*b*) 1.9 (*c*) 1.1 (*d*) 2.5

Sol.



Q9. Write the decimal number represented by the points A, B, C, D on the given number line.



Sol. $A = 0 + \frac{8}{10} = 0.8$

$B = 1 + \frac{3}{10} = 1.3$

$C = 2 + \frac{2}{10} = 2.2$

$D = 2 + \frac{9}{10} = 2.9$

Q.10. (*a*) The length of Ramesh's notebook is 9 cm 5 mm. What will be its length in cm?

(*b*) The length of a young gram plant is 65 mm. Express its length in cm.

Sol. (*a*) 9 cm 5 mm $= 9$ cm $+ 5$ mm

$= 9 \text{ cm} + \frac{5}{10}$ cm $= 9.5$ cm

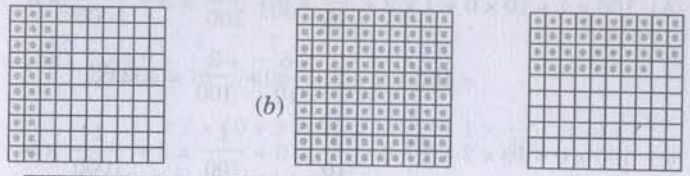
(*b*) $65 \text{ mm} = \frac{65}{10}$ cm $= \frac{60+5}{10} = \frac{6\cancel{0}}{1\cancel{0}} + \frac{5}{10}$ cm

$= 6 + \frac{5}{10}$ cm $= 6.5$ cm.

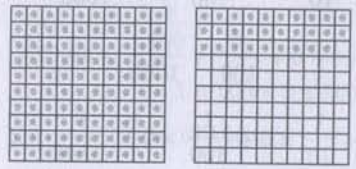
EXERCISE 8.2

Q1. Complete the table with the help of these boxes and use decimals to write the number:

(*a*) (*b*)



(*c*)



	Ones	Tenths	Hundredths	Numbers
(a)				
(b)				
(c)				

Sol.

	Ones	Tenths	Hundredths	Numbers
(a)	0	2	6	0.26
(b)	1	3	8	1.38
(c)	1	2	8	1.28

Q2. Write the numbers given in the following place value table in decimal form:

	Hundreds	Tens	Ones	Tenths	Hundreds	Thousandths
	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
(a)	0	0	3	2	5	0
(b)	1	0	2	6	3	0
(c)	0	3	0	0	2	5
(d)	2	1	1	9	0	2
(e)	0	1	2	2	4	1

Sol. (a) $100 \times 0 + 10 \times 0 + 1 \times 3 + \frac{1}{10} \times 2 + \frac{1}{100} \times 5 + \frac{1}{1000} \times 0$

$= 0 + 0 + 3 + \frac{2}{10} + \frac{5}{100} = 3.25$

(b) $100 \times 1 + 10 \times 0 + 1 \times 2 + \frac{1}{10} \times 6 + \frac{1}{100} \times 3 + \frac{1}{1000} \times 0$

$= 100 + 0 + 2 + \frac{6}{10} + \frac{3}{100} = 102.63$

(c) $100 \times 0 + 10 \times 3 + 1 \times 0 + \frac{1}{10} \times 0 + \frac{1}{100} \times 2 + \frac{1}{1000} \times 5$

$= 0 + 30 + 0 + 0 + \frac{2}{100} + \frac{5}{1000} = 30.025$

(d) $100 \times 2 + 10 \times 1 + 1 \times 1 + \frac{1}{10} \times 9 + \frac{1}{100} \times 0 + \frac{1}{1000} \times 2$

$= 200 + 10 + 1 + \frac{9}{10} + \frac{2}{1000}$

$= 211.902$

(e) $100 \times 0 + 10 \times 1 + 1 \times 2 + \frac{1}{10} \times 2 + \frac{1}{100} \times 4 + \frac{1}{1000} \times 1$

$= 0 + 10 + 2 + \frac{2}{10} + \frac{4}{100} + \frac{1}{1000}$

$= 12.241.$

Q3. Write the following decimals in the place value table:

(a) 0.29 (b) 2.08 (c) 19.60 (d) 148.32 (e) 200.812

Sol.

	Numbers	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
		100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
(a)	0.29	0	0	0	2	9	0
(b)	2.08	0	0	2	0	8	0
(c)	19.60	0	1	9	6	0	0
(d)	148.32	1	4	8	3	2	0
(e)	200.812	2	0	0	8	1	2

Q4. Write each of the following as decimals:

(a) $20 + 9 + \frac{4}{10} + \frac{1}{100}$ **(b)** $137 + \frac{5}{100}$

(c) $\frac{7}{10} + \frac{6}{100} + \frac{4}{1000}$ **(d)** $23 + \frac{2}{10} + \frac{6}{1000}$

(e) $700 + 20 + 5 + \frac{9}{100}$

Sol. (a) $20 + 9 + \frac{4}{10} + \frac{1}{100}$

$= 2 \times 10 + 9 \times 1 + 4 \times \frac{1}{10} + 1 \times \frac{1}{100} = 29.41$

(b) $137 + \frac{5}{100}$

$= 1 \times 100 + 3 \times 10 + 7 \times 1 + 0 \times \frac{1}{10} + \frac{5}{100}$

$= 137.05$

(c) $\frac{7}{10} + \frac{6}{100} + \frac{4}{1000}$

$= 7 \times \frac{1}{10} + 6 \times \frac{1}{100} + 4 \times \frac{1}{1000}$

$= 0.764$

(d) $23 + \frac{2}{10} + \frac{6}{1000}$

$= 2 \times 10 + 3 \times 1 + 2 \times \frac{1}{10} + 0 \times \frac{1}{100} + 6 \times \frac{1}{1000}$

$= 23.206$

(e) $700 + 20 + 5 + \frac{9}{100}$

$= 7 \times 100 + 2 \times 10 + 5 \times 1 + 0 \times \frac{1}{10} + 9 \times \frac{1}{100}$

$= 725.09.$

Q5. Write each of the following decimals in words:

(a) 0.03 **(b) 1.20** **(c) 108.56**

(d) 10.07 **(e) 0.032** **(f) 5.008**

Sol. (a) Zero point zero three.

(b) One point two zero.

(c) One hundred and eight point five six.

(d) Ten point zero seven.

(e) Zero point zero three two.

(f) Five point zero zero eight.

Q6. Between which two numbers in tenths place on the number line does each of the given number lie?

(a) 0.06 **(b) 0.45** **(c) 0.19**

(d) 0.66 **(e) 0.92** **(f) 0.57**

Sol. All the numbers lies between 0 to 1

(a) 0.06 is nearer to 0.1 (b) 0.45 is nearer to 0.5

(c) 0.19 is nearer to 0.2 (d) 0.66 is nearer to 0.7

(e) 0.92 is nearer to 0.9 (f) 0.57 is nearer to 0.6.

Q7. Write as fractions in lowest terms:

(a) 0.60 **(b) 0.05** **(c) 0.75**

(d) 0.18 **(e) 0.25** **(f) 0.125**

(g) 0.066

Sol. (a) $0.60 = \frac{\cancel{60}}{\cancel{100}} = \frac{3}{5}$ (b) $0.05 = \frac{\cancel{5}}{\cancel{100}} = \frac{1}{20}$

(c) $0.75 = \frac{\cancel{75}}{\cancel{100}} = \frac{\cancel{15}}{\cancel{20}} = \frac{3}{4}$ (d) $0.18 = \frac{\cancel{18}}{\cancel{100}} = \frac{9}{50}$

(e) $0.25 = \frac{\cancel{25}}{\cancel{100}} = \frac{\cancel{5}}{\cancel{20}} = \frac{1}{4}$ (f) $0.125 = \frac{\cancel{125}}{\cancel{1000}} = \frac{\cancel{25}}{\cancel{200}} = \frac{\cancel{5}}{\cancel{40}} = \frac{1}{8}$.

(g) $0.066 = \frac{\cancel{66}}{\cancel{1000}} = \frac{33}{500}$.

EXERCISE 8.3

Q1. Which is greater?

(a) 0.3 or 0.4 **(b) 0.07 or 0.02** **(c) 3 or 0.8**

(d) 0.5 or 0.05 **(e) 1.23 or 1.2** **(f) 0.099 or 0.19**

(g) 1.5 or 1.50 **(h) 1.431 or 1.490** **(i) 3.3 or 3.300**

(j) 5.64 or 5.603

Sol. (a) $0.3 = \frac{3}{10}$; $0.4 = \frac{4}{10}$

The tenth part of .0.4 is greater than 0.3. Therefore $0.3 < 0.4$.

(b) $0.07 = \frac{7}{100}$; $0.02 = \frac{2}{100}$

The hundredth part of 0.07 is greater than that of 0.02. Therefore $0.07 > 0.02$.

(c) $3 = 3 \times 1 + 0 \times \frac{1}{10}$

$0.8 = 0 \times 1 + 8 \times \frac{1}{10}$

The ones part of 3 is greater than that of 0.8. Therefore $3 > 0.8$.

(d) $0.5 = 5 \times \frac{1}{10} + 0 \times \frac{1}{100}$

$0.05 = 0 \times \frac{1}{10} + 5 \times \frac{1}{100}$

The tenth term of 0.5 is greater than that of 0.05. Therefore $0.5 > 0.05$.

(e) $1.23 = 1 \times 1 + 2 \times \frac{1}{10} + 3 \times \frac{1}{100}$

$1.2 = 1 \times 1 + 2 \times \frac{1}{10} + 0 \times \frac{1}{100}$

The hundredth term of 1.23 is greater than that of 1.2. Therefore $1.23 > 1.2$.

(f) $0.099 = 0 \times \frac{1}{10} + 9 \times \frac{1}{100} + 9 \times \frac{1}{1000}$

$0.19 = 1 \times \frac{1}{10} + 9 \times \frac{1}{100}$

The tenth term of 0.19 is greater than that of 0.099. Therefore $0.19 > 0.099$.

(g) $1.5 = 1 \times 1 + 5 \times \frac{1}{10}$

$1.50 = 1 \times 1 + 5 \times \frac{1}{10} + 0 \times \frac{1}{100}$

Therefore $1.5 = 1.50$.

(h) $1.431 = 1 \times 1 + 4 \times \frac{1}{10} + 3 \times \frac{1}{100} + 1 \times \frac{1}{1000}$

$1.490 = 1 \times 1 + 4 \times \frac{1}{10} + 9 \times \frac{1}{100} + 0 \times \frac{1}{1000}$

The hundredth term of 1.490 is greater than that of 1.431. Therefore $1.490 > 1.431$.

(i) $3.3 = 3 \times 1 + 3 \times \frac{1}{10}$

$3.300 = 3 \times 1 + 3 \times \frac{1}{10} + 0 \times \frac{1}{100} + 0 \times \frac{1}{1000}$

Therefore $3.3 = 3.300$.

(j) $5.64 = 5 \times 1 + 6 \times \frac{1}{10} + 4 \times \frac{1}{100}$

$5.603 = 5 \times 1 + 6 \times \frac{1}{10} + 0 \times \frac{1}{100} + 3 \times \frac{1}{1000}$

The hundredth term of 5.64 is greater than that of 5.603. Therefore $5.64 > 5.603$.

Q2. Make five more examples and find the greater

(i) 1.8 or 1.82 **(ii) 1.0009 or 1.09**

(iii) 10.01 or 100.1 **(iv) 5.100 or 5.0100**

(v) 04.213 or 0421.3

Sol. (i) 1.82 is greater than 1.8

(ii) 1.09 is greater than 1.0009

(iii) 100.1 is greater than 10.01

(iv) 5.100 is greater than 5.0100

(v) 0421.3 is greater than 04.213.

EXERCISE 8.4

Q1. Express as rupees using decimals:

(a) 5 paise **(b) 75 paise** **(c) 20 paise**

(d) 50 rupees 90 paise **(e) 725 paise**

Sol. (a) 100 paise = 1 ₹

1 paisa $= \frac{1}{100}$ ₹

5 paise $= \frac{1}{100} \times 5$

$= \frac{5}{100}$ Re $= 0.05$ ₹

Therefore 5 paise = ₹ 0.05

(b) 100 paise = 1 ₹

1 paisa $= \frac{1}{100}$ ₹

75 paise $= \frac{1}{100} \times 75$ ₹

$= \frac{75}{100}$ ₹ $= 0.75$ ₹

Therefore 75 paise = ₹ 0.75

(c) 100 paise = 1 ₹

1 paisa $= \frac{1}{100}$ ₹

20 paise $= \frac{1}{100} \times 20$

$= \frac{20}{100} = 0.2$ ₹

Therefore 20 paise = ₹ 0.2

(d) 50 rupees 90 paise

= ₹ 50 + 90 paise

Now 100 paise = 1 ₹

1 paisa $= \frac{1}{100}$ ₹

90 paise $= \frac{90}{100}$ ₹ $= 0.9$ ₹

Therefore ₹ 50 + 90 paise

= 50 ₹ + 0.9 ₹ = ₹ 50.9

(e) 100 paise = 1 ₹

1 paisa $= \frac{1}{100}$ ₹

725 paise $= \frac{725}{100}$ ₹

$= \frac{700 + 25}{100}$ ₹

$= 7 + \frac{25}{100}$ ₹ $= 7.25$ ₹

Therefore 725 paise = ₹ 7.25.

Q2. Express as metres using decimals:

(a) 15 cm **(b) 6 cm** **(c) 2 m 45 cm**

(d) 9 m 7 cm **(e) 419 cm**

Sol. (a) 100 cm = 1 m

$1 \text{ cm} = \frac{1}{100}$ m

$15 \text{ cm} = \frac{1}{100} \times 15$

$= \frac{15}{100}$ m $= 0.15$ m

Therefore 15 cm = 0.15 m.

(b) 100 cm = 1 m

$1 \text{ cm} = \frac{1}{100}$ m

$6 \text{ cm} = \frac{1}{100} \times 6$

$= \frac{6}{100}$ m $= 0.06$ m

Therefore 6 cm = 0.06 m.

(c) 2 m 45 cm = 2 m + 45 cm

Now 100 cm = 1 m

$1 \text{ cm} = \frac{1}{100}$ m

$45 \text{ cm} = \frac{45}{100}$ m $= 0.45$ m

Therefore 2 m + 45 cm

$= 2 \text{ m} + 0.45 \text{ m} = 2.45$ m

Therefore 2 m 45 cm = 2.45 m.

(d) 9 m 7 cm = 9 m + 7 cm

Now 100 cm = 1 m

$1 \text{ cm} = \frac{1}{100}$ m

$7 \text{ cm} = \frac{7}{100}$ m $= 0.07$ m

Therefore 9 m + 7 cm = 9 + 0.07

$= 9.07$ m

Thus 9 m 7 cm = 9.07 m

(e) 100 cm = 1 m

$1 \text{ cm} = \frac{1}{100}$ m

$419 \text{ cm} = \frac{1}{100} \times 419 = \frac{419}{100}$ m

$= \frac{400 + 19}{100}$ m

$= \frac{400}{100} + \frac{19}{100}$

$= 4 + 0.19 = 4.19$ m

Therefore 419 cm = 4.19 cm.

Q3. Express as cm using decimals:

(a) 5 mm **(b) 60 mm** **(c) 164 mm**

(d) 9 cm 8 mm **(e) 93 mm**

Sol. (a) 10 mm = 1 cm

$1 \text{ mm} = \frac{1}{10}$ cm

$5 \text{ mm} = \frac{1}{10} \times 5 = \frac{5}{10}$ cm

Therefore 5 mm = 0.5 cm

$= 0.5$ cm

(b) 10 mm = 1 cm

$1 \text{ mm} = \frac{1}{10}$ cm

$60 \text{ mm} = \frac{1}{10} \times 60 \text{ cm} = 6 \text{ cm}$

Therefore 60 mm = 6 cm.]

(c) 10 mm = 1 cm

$1 \text{ mm} = \frac{1}{10}$ cm

$164 \text{ mm} = \frac{1}{10} \times 164$

$= \frac{164}{10}$ cm $= 16.4$ cm

Therefore 164 mm = 16.4 cm

(d) 9 cm 8 mm = 9 cm + 8 mm

Now 10 mm = 1 cm

$1 \text{ mm} = \frac{1}{10}$ cm

$8 \text{ mm} = \frac{8}{10}$ cm $= 0.8$ cm

Therefore 9 cm 8 mm = 9.8 cm

(e) 10 mm = 1 cm

$1 \text{ mm} = \frac{1}{10}$ cm

$93 \text{ mm} = \frac{1}{10} \times 93$

$\frac{93}{10}$ cm $= 9.3$ cm

Therefore 93 mm = 9.3 cm.

Q4. Express as km using decimals:

(a) 8 m **(b) 88 m**

(c) 8888 m **(d) 70 km 5 m**

Sol. (a) 1000 m = 1 km

$1 \text{ m} = \frac{1}{1000}$ km

$8 \text{ m} = \frac{8}{1000}$ km

$= 0.008$ km

Therefore 8 m = 0.008 km

(b) 1000 m = 1 km

$1 \text{ m} = \frac{1}{1000}$ km

$88 \text{ m} = \frac{88}{1000}$ km

$= 0.088$ km

Therefore 88 m = 0.088 km

(c) 1000 m = 1 km

$1 \text{ m} = \frac{1}{1000}$ km

$8888 \text{ m} = \frac{8888}{1000}$ km

(d) 70 km 5 m

$= 70 \text{ km} + 5 \text{ m}$

$1 \text{ m} = \frac{1}{1000}$ km

$= 8.888$ km

Therefore 8888 m = 8.888 km

5 m $= \frac{5}{1000}$ km

$= 0.005$ km

Therefore 70 km 5 m $= 70.005$ km.

Q5. Express as kg using decimals:

(a) 2g **(b) 100 g** **(c) 3750 g**

(d) 5 kg 8 g **(e) 26 kg 50 g**

Sol. (a) 1000 g = 1 kg

$1\text{ g} = \frac{1}{1000}$ kg

$2\text{ g} = \frac{2}{1000}$ kg $= 0.002$ kg

Therefore 2 g = 0.002 kg

(b) 1000 g = 1 kg

$1\text{ g} = \frac{1}{1000}$ kg

$100\text{ g} = \frac{100}{1000}$ kg $= 0.1$ kg

Therefore 100 g = 0.1 kg

(c) 1000 g = 1 kg

$1\text{ g} = \frac{1}{1000}$ kg

$3750\text{ g} = \frac{3750}{1000}$ kg $= 3.750$ kg

Therefore 3750 g = 3.750 kg.

(d) 5 kg 8 g = 5 kg + 8 g

$1\text{ g} = \frac{1}{1000}$ kg

$8\text{g} = \frac{8}{1000} = 0.008$ kg

Therefore 5 kg 8 g = 5.008 kg

(e) 26 kg 50 g = 26 kg + 50 g

$1\text{ g} = \frac{1}{1000}$ kg

$50\text{ g} = \frac{50}{1000}$ kg $= 0.05$ kg.

Therefore 26 kg 50 g = 26.05 kg.

EXERCISE 8.5

Q1. Find the sum in each of the following:

(a) 0.007 + 8.5 + 30.08 **(b) 15 + 0.632 + 13.8**

(c) 27.076 + 0.55 + 0.004 **(d) 25.65 + 9.005 + 3.7**

(e) 0.75 + 10.425 + 2 **(f) 280.69 + 25.2 + 38**

Sol. (a)

	H	T	O	.	Tenth	Hund.	Thou.
				.	0	0	7
			8	.	5		
+		3	0	.	0	8	
		3	8	.	5	8	7

$= 38.587$

(b)

	H	T	O	.	Tenth	Hund.	Thou.
	0	1	5	.	0	0	0
				.	6	3	2
+		1	3	.	8		
		2	9	.	4	3	2

$= 29.432$

(c)

	H	T	O	.	Tenth	Hund.	Thou.
		2	7	.	0	7	6
				.	5	5	
+				.	0	0	4
		2	7	.	6	3	0

$= 27.630$

(d)

	H	T	O	.	Tenth	Hund.	Thou.
		2	5	.	6	5	
			9	.	0	0	5
+			3	.	7		
		3	8	.	3	5	5

$= 38.355$

(e)

	H	T	O	.	Tenth	Hund.	Thou.
				.	7	5	
		1	0	.	4	2	5
+			2	.			
		1	3	.	1	7	5

$= 13.175$

(f)

	H	T	O	.	Tenth	Hund.	Thou.
	2	8	0	.	6	9	
		2	5	.	2		
+		3	8	.			
	3	4	3	.	8	9	

$= 343.89$

Q2. Rashid spent ₹ 35.75 for Maths book and ₹ 32.60 for Science book. Find the total amount spent by Rashid.

Sol. Money spent for Maths book = ₹ 35.75

Money spent for Science book = ₹ 32.60

Total money spent = 35.75 + 32.60

Therefore total money

$$\begin{array}{r} {\scriptstyle 1} \\ 35.75 \\ +\ 32.60 \\ \hline 68.35 \end{array}$$

Therefore total money spent by Rashid is ₹ 68.35.

Q3. Radhika's mother gave her ₹ 10.50 and her father gave her ₹ 15.80. Find the total amount given to Radhika by the parents.

Sol. Money given by mother = ₹ 10.50

Money given by father = ₹ 15.80

Total money received by Radhika = 10.50 + 15.80

$$\begin{array}{r} {\scriptstyle 1} \\ 10.50 \\ +\ 15.80 \\ \hline 26.30 \end{array}$$

Therefore total money received by Radhika is ₹ 26.30.

Q4. Nasreen bought 3 m 20 cm cloth for her shirt and 2 m 5 cm cloth for her trouser. Find the total length of cloth bought by her.

Sol. Cloth bought for shirt = 3 m 20 cm = 3.20 m

Cloth bought for trouser = 2 m 5 cm = 2.05 m

Therefore

$$\begin{array}{r} 3.20 \text{ m} \\ +\ 2.05 \text{ m} \\ \hline 5.25 \text{ m} \end{array}$$

Therefore total length of cloth is 5.25 m.

Q5. Naresh walked 2 km 35 m in the morning and 1 km 7 m in the evening. How much distance did he walk in all?

Sol. Distance travelled in morning = 2 km 35 m = 2.035 km

Distance travelled in evening = 1 km 7 m = 1.007 km

Total distance travelled = 2.035 + 1.007

$$\begin{array}{r} 2.035 \\ +\ 1.007 \\ \hline 3.042 \text{ km} \end{array}$$

Therefore total distance travelled by Naresh is 3.042 km.

Q6. Sunita travelled 15 km 268 m by bus, 7 km 7 m by car and 500 m by foot in order to reach her school. How far is her school from her residence?

Sol. Distance travelled by bus = 15 km 268 m = 15.268 km

Distance travelled by car = 7 km 7 m = 7.007 km

Distance travelled on foot = 500 m = 0.500 km

Total distance travelled = 15.268 km + 7.007 km + 0.500 km

$$\begin{array}{r} 15.268 \\ 7.007 \\ +\ 0.500 \\ \hline 22.775 \text{ km} \end{array}$$

Therefore total distance travelled is ₹ 22.775 km.

7. Ravi purchased 5 kg 400 g rice, 2 kg 20 g sugar and 10 kg 850 g flour. Find the total weight of his purchases.

Sol. Weight of Rice = 5 kg 400 g = 5.400 kg

Weight of Sugar = 2 kg 20 g = 2.020 kg

Weight of Flour = 10 kg 850 g = 10.850 kg

Total weight = 5.400 kg + 2.020 kg + 10.850 kg

$$\begin{array}{r} 5.400 \text{ kg} \\ 2.020 \text{ kg} \\ +\ 10.850 \text{ kg} \\ \hline 18.270 \text{ kg} \end{array}$$

Therefore total weight of Ravi's purchases = 18.270 kg.

EXERCISE 8.6

Q1. Subtract.

(a) Rs. 18.25 from ₹ 20.75 **(b) 202.54 m from 250 m**

(c) Rs. 5.36 from ₹ 8.40 **(d) 2.051 km from 5.206 km**

(e) 0.314 kg from 2.107 kg

Sol. (a)

$$\begin{array}{r} 20.75 \\ -18.25 \\ \hline 02.50 \end{array}$$

= ₹ 2.50

(b)

$$\begin{array}{r} 250.00 \\ -\ 202.54 \\ \hline 47.46 \end{array}$$

= 47.46 m

(c)

$$\begin{array}{r} 8.40 \\ -\ 5.36 \\ \hline 3.04 \end{array}$$

= ₹ 3.04

(d)

$$\begin{array}{r} 5.206 \text{ km} \\ -\ 2.051 \text{ km} \\ \hline 3.155 \text{ km} \end{array}$$

= 3.155 km

(e) 2.107 kg
− 0.314 kg
1.793 kg

= 1.793 kg

Q2. Find the value of:

(a) 9.756 – 6.28 **(b) 21.05 – 15.27**

(c) 18.5 – 6.79 **(d) 11.6 – 9.847**

Sol. (a) 9.756
− 6.28
3.476

= 3.476

(b) 21.05
− 15.27
05.78

= 5.78

(c) 18.50
− 6.79
11.71

= 11.71

(d) 11.600
−9.847
1.753

= 1.753

Q3. Raju bought a book for ₹ 35.65. He gave ₹ 50 to the shopkeeper. How much money did he get back from the shopkeeper?

Sol. Total amount given to shopkeeper = ₹ 50

Cost of book = 35.65

Remaining amount = 50 – 35.65

50.00
− 35.65
14.35

Therefore Raju got back ₹ 14.35 from the shopkeeper.

Q4. Rani had ₹ 18.50. She bought one ice-cream for ₹ 11.75. How much money does she have now?

Sol. Total money = ₹ 18.50

Cost of Ice-cream = ₹ 11.75

Remaining amount = 18.50 – 11.75

18.50
− 11.75
6.75

∴ Remaining money = ₹ 6.75.

Q5. Tina had 20 m 5 cm long cloth. She cuts 4 m 50 cm length of cloth from this for making a curtain. How much cloth is left with her?

Sol. Total length of cloth = 20 m 5 cm = 20.05 m

Length of cloth used = 4 m 50 cm = 4.50 m

Remaining cloth = 20.05 m – 4.50 m

20.05
− 4.50
15.55 m

Length of remaining cloth is 15.55 m.

Q6. Namita travels 20 km 50 m every day. Out of this she travels 10 km 200 m by bus and the rest by auto. How much distance does she travel by auto?

Sol. Total distance travel = 20 km 50 m = 20.050 m

Distance travel by bus = 10 km 200 m = 10.200 m

Distance travel by auto = (20.050 – 10.200) m

20.050
−10.200
9.850

Therefore distance travel by 9.850 km.

Q7. Aakash bought vegetables weighing 10 kg. Out of this 3 kg 500 g is onions, 2 kg 75 g is tomatoes and the rest in potatoes. What is the weight of the potatoes?

Sol. Weight of onions = 3 kg 500 g = 3.500 kg

Weight of tomatoes = 2 kg 75 g = 2.075 kg

Total weight of onions and tomatoes = 3.500 + 2.075

3.500 kg
+ 2.075 kg
5.575 kg

Total weight of vegetables = 10 kg

Therefore weight of potatoes = 10 kg – 5.575 kg

10.000
− 5.575
4.425 kg

Therefore weight of potatoes is 4.425 kg.

❑❑