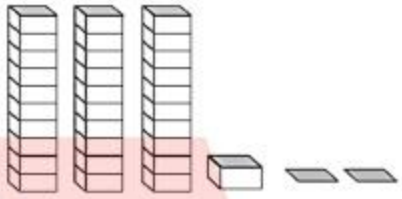
CBSE NCERT Solutions for Class 6 Mathematics Chapter 8

Back of Chapter Questions

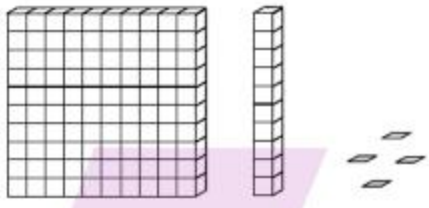
Exercise: 8.1

1. Write the following as numbers in the given table.

(a)



(b)



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

Solution:

From the given figure, we get

	Hundreds (100)	**Tens (10)**	**Ones (1)**	**Tenths $\left(\frac{1}{10}\right)$**
(a)	0	3	1	2
(b)	1	1	0	4

2. Write the following decimals in the place value table.

(a) 19.4

(b) 0.3

(c) 10.6

(d) 205.9

Solution:

(a) The number 19.4 can be expressed as

Hundreds		**Tens**	**Ones**	**Tenths**

0		1	9	4

(b) The number 0.3 can be expressed as

Hundreds	Tens	Ones	Tenths
0	0	0	3

(c) The number 10.6 can be expressed as

Hundreds	Tens	Ones	Tenths
0	1	0	6

(d) The number 205.9 can be expressed as

Hundreds	Tens	Ones	Tenths
2	0	5	9

3. 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

Solution:

(a) Seven-tenths= $\frac{7}{10} = 0.7$

(b) Two tens and nine-tenths = $(2 \times 10) + (9 \times \frac{1}{10})$

$= 20 + 0.9$

$= 20.9$

(c) Fourteen point six = 14.6

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

$= 100 + 2$

$= 102$

(e) Six hundred point eight = 600.8

4. 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) $4\frac{1}{2}$

Solution:

(a) $\frac{5}{10}$

$= 0.5$

Hence, $\frac{5}{10} = 0.5$

(b) $3 + \frac{7}{10}$

$= 3 + 0.7$

$= 3.7$

Hence, $3 + \frac{7}{10} = 3.7$

(c) $200 + 60 + 5 + \frac{1}{10}$

$= 200 + 60 + 5 + 0.1$

$= 265.1$

Hence, $200 + 60 + 5 + \frac{1}{10} = 265.1$

(d) $70 + \frac{8}{10}$

$= 70 + 0.8$

$= 70.8$

Hence, $70 + \frac{8}{10} = 70.8$

(e) $\frac{88}{10}$

$= \frac{80 + 8}{10}$

$= \frac{80}{10} + \frac{8}{10}$

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

$= 8 + 0.8$

$= 8.8$

Hence, $\frac{88}{10} = 8.8$

(f) $4\frac{2}{10}$

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

$= 4 + 0.2$

$= 4.2$

Hence, $4\frac{2}{10} = 4.2$

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

$= \frac{3 \times 5}{2 \times 5}$

$= \frac{15}{10}$

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

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

$= 1 + 0.5$

$= 1.5$

Hence, $\frac{3}{2} = 1.5$

(h) $\frac{2}{5}$

$= \frac{2 \times 2}{5 \times 2}$

$= \frac{4}{10}$

$= 0.4$

Hence, $\frac{2}{5} = 0.4$

(i) $\frac{12}{5}$

$= \frac{12 \times 2}{5 \times 2}$

$= \frac{24}{10}$

$= \frac{20 + 4}{10}$

$= \frac{20}{10} + \frac{4}{10}$

$= 2 + 0.4$

$= 2.4$

Hence, $\frac{12}{5} = 2.4$

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

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

$= 3 + \frac{3 \times 2}{5 \times 2}$

$= 3 + \frac{6}{10}$

$= 3 + 0.6$

$= 3.6$

Hence, $3\frac{3}{5} = 3.6$

(k) $4\frac{1}{2}$

$= 4 + \frac{1}{2}$

$= 4 + \frac{1 \times 5}{2 \times 5}$

$= 4 + \frac{5}{10}$

$= 4 + 0.5$

$= 4.5$

Hence, $4\frac{1}{2} = 4.5$

5. Write the following decimals as fractions. 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

Solution:

(a) 0.6

$= \frac{6}{10}$

$= \frac{3}{5}$

Hence, $0.6 = \frac{3}{5}$

(b) 2.5

$= 2 + 0.5$

$= 2 + \frac{1}{2}$

$= \frac{5}{2}$

Hence, $2.5 = \frac{5}{2}$

(c) 1.0

$= \frac{10}{10}$

$= 1$

Hence, $1.0 = 1$

(d) 3.8

$= 3 + \frac{8}{10}$

$= 3 + \frac{4}{5}$

$= \frac{19}{5}$

Hence, $3.8 = \frac{19}{5}$

(e) 13.7

$= 13 + \frac{7}{10}$

$= \frac{137}{10}$

Hence, $13.7 = \frac{137}{10}$

(f) 21.2

$= 21 + \frac{2}{10}$

$= 21 + \frac{1}{5}$

$= \frac{106}{5}$

Hence, $21.2 = \frac{106}{5}$

(g) 6.4

$= 6 + \frac{4}{10}$

$= 6 + \frac{2}{5}$

$= \frac{32}{5}$

Hence, $6.4 = \frac{32}{5}$

6. 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

Solution:

(a) We know that, 10 mm = 1 cm

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

Hence, $2 \text{ mm} = 2 \times \frac{1}{10} = 0.2 \text{ cm}$

(b) We know that, 10 mm = 1 cm

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

Hence, $30 \text{ mm} = 30 \times \frac{1}{10} = 3.0 \text{ cm}$

(c) We know that, 10 mm = 1 cm

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

Hence, $116 \text{ mm} = 116 \times \frac{1}{10} = 11.6 \text{ cm}$

(d) We know that, 10 mm = 1 cm

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

$2 \text{ mm} = \frac{2}{10} \text{cm}$

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

$= 4.2 \text{ cm}$

Hence, 4 cm 2 mm = 4.2 cm

(e) We know that, 10 mm = 1 cm

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

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

$= 16.2 \text{ cm}$

Hence, 162 mm = 16.2 cm

(f) We know that, 10 mm = 1 cm

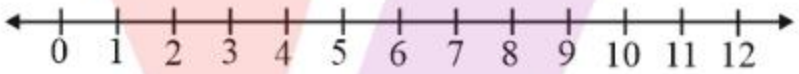
$\therefore 1 \text{ mm} = \frac{1}{10} \text{ cm}$

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

$= 8.3 \text{ cm}$

Hence, 83 mm = 8.3 cm

7. 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

Solution:

(a) Given number 0.8 lies between 0 and 1.

The whole number 1 is nearer to 0.8

(b) Given number 5.1 lies between 5 and 6.

The whole number 5 is nearer to 5.1

(c) Given number 2.6 lies between 2 and 3.

The whole number 3 is nearer to 2.6

(d) Given number 6.4 lies between 6 and 7.

The whole number 6 is nearer to 6.4

(e) Given number 9.1 lies between 9 and 10.

The whole number 9 is nearer to 9.1

(f) Given number 4.9 lies between 4 and 5.

The whole number 5 is nearer to 4.9

8. Show the following numbers on the number line.

(a) 0.2

(b) 1.9

(c) 1.1

(d) 2.5

Solution:

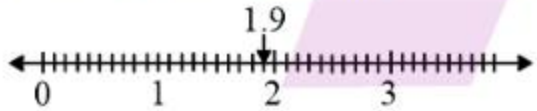
(a) Given, 0.2

0.2 can be represented on the number line as below:

Hence, 0.2 lies between 0 and 1.

(b) Given, 1.9

1.9 can be represented on the number line as below:



Hence, 1.9 lies between 1 and 2.

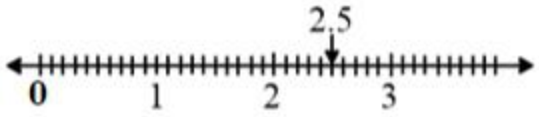
(c) Given, 1.1

1.1 can be represented on the number line as below:

Hence, 1.1 lies between 1 and 2

(d) Given, 2.5

2.5 can be represented on the number line as below:



Hence, 2.5 lies between 2 and 3

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

Solution:

Given figure is

Point A lies on 8^{th} part of 0 and 1.

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

Point B lies on 3^{rd} part of 1 and 2.

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

Point C lies on 2^{th} part of 2 and 3.

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

Point D lies on 9^{th} part of 2 and 3.

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

Therefore, 0.8, 1.3, 2.2 and 2.9 are represented by the points A, B, C and D respectively.

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.

Solution:

(a) Given length of Ramesh notebook = 9 cm 5 mm

$\because$ 10 mm = 1 cm

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

$9 \text{ cm } 5 \text{ mm} = 9 \text{ cm} + 5 \text{ mm}$

$= 9 + \frac{5}{10}$

$= 9.5 \text{ cm}$

Hence, length of Ramesh notebook in (cm)= 9.5 cm.

(b) Given length of a young gram plant = 65 mm

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

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

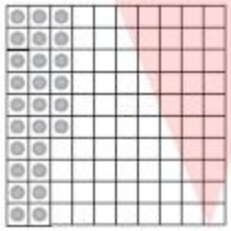
$65 \text{ mm} = \frac{65}{10} \text{ cm}$

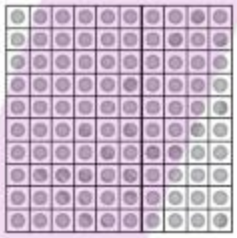
$= 6.5 \text{ cm}$

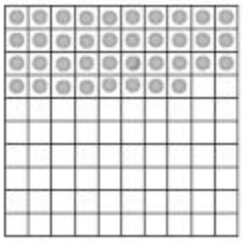
Hence, length of a young gram plant in (cm)= 6.5 cm.

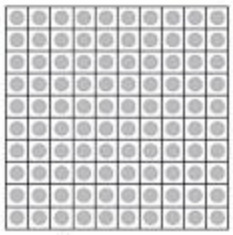
Exercise: 8.2

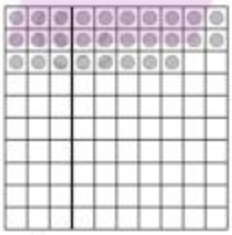
1. Complete the table with help of these boxes and use decimals to write the number:

(a) 

(b) 



(c) 



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

Solution:

(a) From the given figure,

we can observe that 26 small squares are marked.

Hence, the decimal number representing given block diagram is $\frac{26}{100}$

(b) From the given figure,

we can observe that 138 small squares are marked.

Hence, the decimal number representing given block diagram is $\frac{138}{100}$

(c) From the given figure,

we can observe that 128 small squares are marked.

Hence, the decimal number representing given block diagram is $\frac{128}{100}$

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

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

	Hundreds **100**	**Tens** **10**	**Ones** **1**	**Tenths** $\frac{1}{10}$	**Hundredths** $\left(\frac{1}{100}\right)$	**Thousandths** $\frac{1}{1000}$
(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

Solution:

(a) From the given table, we get

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

$$= 0 + 0 + 3 + 0.2 + 0.05 + 0$$

$$= 3.25$$

Hence, the required answer is 3.25

(b) From the given table, we get

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

$$= 100 + 0 + 2 + 0.6 + 0.03 + 0$$

$$= 102.63$$

Hence, the required answer is 102.63

(c) From the given table, we get

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

$$= 0 + 30 + 0 + 0 + 0.02 + 0.005$$

$$= 30.025$$

Hence, the required answer is 30.025

(d) From the given table, we get

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

$$= 200 + 10 + 1 + 0.9 + 0 + 0.002$$

$$= 211.902$$

Hence, the required answer is 211.902

(e) From the given table, we get

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

$$= 0 + 10 + 2 + 0.2 + 0.04 + 0.001$$

$$= 12.241$$

Hence, the required answer is 12.241

3. Write the following decimals in the place value table.

(a) 0.29

(b) 2.08

(c) 19.60

(d) 148.32

(e) 200.812

Solution:

(a) $0.29 = \frac{2}{10} + \frac{9}{100}$

(b) $2.08 = 2 + \frac{8}{100}$

(c) $19.6 = 1 \times 10 + 9 \times 1 + \frac{6}{10}$

(d) $148.32 = 1 \times 100 + 4 \times 10 + 8 \times 1 + \frac{3}{10} + \frac{2}{100}$

(e) $200.812 = 2 \times 100 + \frac{8}{10} + \frac{1}{100} + \frac{2}{1000}$

	Numbers	Hundredths 100	Tens 10	Ones 1	Tenths $\frac{1}{10}$	Hundredths $\frac{1}{100}$	Thousands $\frac{1}{1000}$
(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

4. 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) $700 + 20 + 5 + \frac{9}{100}$

Solution:

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

$= 20 + 9 + 0.4 + 0.01$

$= 29.41$

Hence, the required answer is 29.41

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

$= 137 + 0.05$

$= 137.05$

Hence, the required answer is 137.05

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

$= 0.7 + 0.06 + 0.004$

$= 0.764$

Hence, the required answer is 0.764

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

$= 23 + 0.2 + 0.006$

$= 23.206$

Hence, the required answer is 23.206

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

$= 700 + 20 + 5 + 0.09$

$= 725.09$

Hence, the required answer is 725.09

5. 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

Solution:

(a) Decimal number 0.03 in words is Zero point zero three.

(b) Decimal number 1.20 in words is One point two zero.

(c) Decimal number 108.56 in words is One hundred and eight point five six.

(d) Decimal number 10.07 in words is Ten point zero seven.

(e) Decimal number 0.032 in words is Zero point zero three two.

(f) Decimal number 5.008 in words is Five point zero zero eight.

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

(a) 0.06

(b) 0.45

(c) 0.19

(d) 0.66

(e) 0.92

(f) 0.57

Solution:

(a) 0.06 lies between 0 and 0.1

(b) 0.45 lies between 0.4 and 0.5

(c) 0.19 lies between 0.1 and 0.2

(d) 0.66 lies between 0.6 and 0.7

(e) 0.92 lies between 0.9 and 1

(f) 0.57 lies between 0.5 and 0.6

7. 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

Solution:

(a) 0.60

$$= \frac{6}{10}$$

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

Hence, the required answer is $\frac{3}{5}$

(b) 0.05

$= \frac{5}{100}$

$= \frac{1}{20}$

Hence, the required answer is $\frac{1}{20}$

(c) 0.75

$= \frac{75}{100}$

$= \frac{3}{4}$

Hence, the required answer is $\frac{3}{4}$

(d) 0.18

$= \frac{18}{100}$

$= \frac{9}{50}$

Hence, the required answer is $\frac{9}{50}$

(e) 0.25

$= \frac{25}{100}$

$= \frac{1}{4}$

Hence, the required answer is $\frac{1}{4}$

(f) 0.125

$= \frac{125}{1000}$

$= \frac{1}{8}$

Hence, the required answer is $\frac{1}{8}$

(g) 0.066

$$= \frac{66}{1000}$$

$$= \frac{33}{500}$$

Hence, the required answer is $\frac{33}{500}$

Exercise: 8.3

1. 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

Solution:

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

$$0.4 = \frac{4}{10}$$

$\frac{4}{10}$ is greater than $\frac{3}{10}$

Hence, $0.4 > 0.3$

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

$$0.02 = \frac{2}{100}$$

Clearly, $\frac{7}{100}$ is greater than $\frac{2}{100}$

Hence, $0.07 > 0.02$

(c) $0.8 = \frac{8}{10}$

The whole number 3 is greater than 0.8

Hence, $3 > 0.8$

(d) $0.5 = \frac{5}{10}$

$$0.05 = \frac{5}{100}$$

Tenth part of 0.5 is greater than 0.05

Hence, $0.5 > 0.05$

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

$$1.2 = 1 + \frac{2}{10}$$

Hundredth part of 1.23 is greater than 1.2

Hence, $1.23 > 1.2$

(f) $0.099 = \frac{9}{100} + \frac{9}{1000}$

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

Tenth part of 0.19 is greater than 0.099

Hence, $0.19 > 0.099$

(g) $1.50 = 1 + \frac{5}{10} + \frac{0}{100}$

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

$$= 1.5$$

Hence, $1.50 = 1.5$

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

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

Tenth part of 1.490 is greater than 1.431

Hence, $1.490 > 1.431$

(i) $3.300 = 3 + \frac{3}{10} + \frac{0}{100} + \frac{0}{1000}$

$$= 3 + \frac{3}{10}$$

$= 3.3$

Hence, $3.300 = 3.3$

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

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

Hundredth part of 5.64 is greater than 5.603

Hence, $5.64 > 5.603$

2. Make five more examples and find the greater number from them.

Solution:

(a) 4.67 or 4.623

$$4.67 = 4 + \frac{6}{10} + \frac{7}{100}$$

$$4.623 = 4 + \frac{6}{10} + \frac{2}{100} + \frac{3}{1000}$$

Hundredth part of 4.67 is greater than 4.623

Hence, $4.67 > 4.623$

(b) 1.0009 or 1.0900

Hundredth part of 1.0900 is greater than 1.0009

Hence, $1.0900 > 1.0009$

(c) 10.01 or 100.10

Hundreds place of 100.10 is greater than 10.01

Hence, $100.10 > 10.01$

(d) 5.1000 or 5.0100

Tenth part of 5.1000 is greater than 5.0100

Hence, $5.1000 > 5.0100$

(e) 4.213 or 421.300

Hundredth part of 421.300 is greater than 4.213

Hence, $421.300 > 4.213$

Exercise: 8.4

1. Express as rupees using decimals.

(a) 5 paise

(b) 75 paise

(c) 20 paise

(d) 50 rupees 90 paise

(e) 725 paise

Solution:

(a) We know that, 1 paise $= ₹\frac{1}{100}$

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

$= ₹ 0.05$

Hence, 5 paise= ₹ 0.05

(b) We know that, 1 paise $= ₹\frac{1}{100}$

$\therefore 75 \text{ paise} = 75 \times \frac{1}{100}$

$= ₹ 0.75$

Hence, 75 paise= ₹ 0.75

(c) We know that, 1 paise $= ₹\frac{1}{100}$

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

$= ₹ 0.2$

Hence, 20 paise= ₹ 0.2

(d) We know that, 1 paise $= ₹\frac{1}{100}$

$\therefore 50\text{rupees} + 90 \text{ paise} = 50 + 90 \times \frac{1}{100}$

$= ₹ 50.90$

Hence, 50 rupees 90 paise= ₹ 50.90

(e) We know that, 1 paise $= ₹\frac{1}{100}$

$\therefore 725 \text{ paise} = 725 \times \frac{1}{100}$

$= \frac{725}{100}$

$= ₹\ 7.25$

Hence, 725 paise= ₹ 7.25

2. Express as meters using decimals.

(a) 15 cm

(b) 6 cm

(c) 2 m 45 cm

(d) 9 m 7 cm

(e) 419 cm

Solution:

(a) We know that, 1 cm $= \frac{1}{100}$ m

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

$= 0.15$ m

Hence, 15 cm = 0.15 m

(b) We know that, 1 cm $= \frac{1}{100}$ m

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

$= 0.06$ m

Hence, 6 cm = 0.06 m

(c) We know that, 1 cm $= \frac{1}{100}$ m

$\therefore 2 \text{ m } 45 \text{ cm} = 2 + 45 \times \frac{1}{1`00}$

$= 2.45$ m

Therefore, 2 m 45 cm = 2.45 m

(d) We know that, 1 cm $= \frac{1}{100}$ m

$\therefore 9\text{m } 7\text{cm} = 9 + 7 \times \frac{1}{100}$

$= 9.07$ m

Hence, 9m 7cm = 9.07 m

(e) We know that, 1 cm = $\frac{1}{100}$ m

$\therefore$ 419 cm = $419 \times \frac{1}{100}$

$= \frac{419}{100}$

= 4.19 m

Hence, 419 cm = 4.19 m

3. Express as cm using decimals.

(a) 5 mm

(b) 60 mm

(c) 164 mm

(d) 9 cm 8 mm

(e) 93 mm

Solution:

(a) $\because$ 1 mm = $\frac{1}{10}$ cm

$\therefore$ 5 mm = $5 \times \frac{1}{10}$

= 0.5 cm

Therefore, 5 mm = 0.5 cm

(b) $\because$ 1 mm = $\frac{1}{10}$ cm

$\therefore$ 60 mm = $60 \times \frac{1}{10}$

= 6 cm

Hence, 60 mm = 6 cm

(c) $\because$ 1 mm = $\frac{1}{10}$ cm

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

= 16.4 cm

Therefore, 164 mm = 16.4 cm

(d) $\because 1\text{ mm} = \frac{1}{10}\text{ cm}$

$\therefore 9\text{cm } 8\text{ mm} = 9 + 8 \times \frac{1}{10}$

$= 9 + 0.8$

$= 9.8\text{ cm}$

Hence, 9cm 8 mm = 9.8 cm

(e) $\because 1\text{ mm} = \frac{1}{10}\text{ cm}$

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

$= 9.3\text{ cm}$

Hence, 93 mm = 9.3 cm

4. Express as km using decimals.

(a) 8 m

(b) 88 m

(c) 8888 m

(d) 70 km 5 m

Solution:

(a) $\because 1\text{ m} = \frac{1}{1000}\text{ km}$

$\therefore 8\text{ m} = 8 \times \frac{1}{1000}$

$= 0.008\text{ km}$

Hence, 8 m = 0.008 km

(b) $\because 1\text{ m} = \frac{1}{1000}\text{ km}$

$\therefore 88\text{ m} = 88 \times \frac{1}{1000}$

$= 0.088\text{ km}$

Hence, 88 m = 0.088 km

(c) $\because 1\text{ m} = \frac{1}{1000}\text{ km}$

$\therefore 8888\text{ m} = 8888 \times \frac{1}{1000}$

$= 8.888$ km

Hence, 8888 m = 8.888 km

(d) $\because 1\text{ m} = \frac{1}{1000}$ km

$\therefore 70\text{km } 5\text{ m} = 70 + 5 \times \frac{1}{1000}$

$= 70.005$ km

Hence, 70km 5 m = 70.005 km

5. Express as kg using decimals.

(a) 2 g

(b) 100 g

(c) 3750 g

(d) 5 kg 8 g

(e) 26 kg 50 g

Solution:

(a) We know that, $1\text{ g} = \frac{1}{1000}$ kg

$\therefore 2\text{ g} = 2 \times \frac{1}{1000}$

$= 0.002$ kg

Hence, 2 g = 0.002 kg

(b) We know that, $1\text{ g} = \frac{1}{1000}$ kg

$\therefore 100\text{ g} = 100 \times \frac{1}{1000}$

$= 0.1$ kg

Hence, 100 g = 0.1 kg

(c) We know that, $1\text{ g} = \frac{1}{1000}$ kg

$\therefore 3750\text{ g} = 3750 \times \frac{1}{1000}$

$= 3.750$ kg

Hence, 3750 g = 3.750 kg

(d) We know that, $1\text{ g} = \frac{1}{1000}\text{ kg}$

$\therefore 5\text{kg } 8\text{ g} = 5 + 8 \times \frac{1}{1000}$

$= 5.008\text{ kg}$

Hence, $5\text{kg } 8\text{g} = 5.008\text{ kg}$

(e) We know that, $1\text{ g} = \frac{1}{1000}\text{ kg}$

$\therefore 26\text{kg } 50\text{ g} = 26 + 50 \times \frac{1}{1000}$

$= 26.050\text{ kg}$

Hence, $26\text{kg } 50\text{ g} = 26.050\text{ kg}$

Exercise: 8.5

1. 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) $280.69 + 25.2 + 38$

Solution:

(a) Given, $0.007 + 8.5 + 30.08$

	H	T	O	.	Tenth	Hund.	Thou.	
			0	.	0	0	7	
			8	.	5			
+		3	0	.	0	8		
		3	8	.	5	8	7	= 38.587

Therefore, the required answer is 38.587

(b) Given, $15 + 0.632 + 13.8$

	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

Therefore, the required answer is 29.432

(c) Given, 27.076 + 0.55 + 0.004

	H	T	O	.	Tenth	Hund.	Thou.	
		2	7	.	0	7	6	
				.	5	5		
+				.	0	0	4	
		2	7	.	6	3	0	= 27.630

Therefore, the required answer is 27.630

(d) Given, 25.65 + 9.005 + 3.7

	H	T	O	.	Tenth	Hund.	Thou.	
		2	5	.	6	5		
			9	.	0	0	5	
+			3	.	7			
		3	8	.	3	5	5	= 38.355

Therefore, the required answer is 38.355

(e) Given, 0.75 + 10.425 + 2

	H	T	O	.	Tenth	Hund.	Thou.	
				.	7	5		
		1	0	.	4	2	5	
+			2	.				
		1	3	.	1	7	5	= 13.175

Therefore, the required answer is 13.175

(f) Given, 280.69 + 25.2 + 38

	H	T	O	.	Tenth	Hund.	Thou.	
	2	8	0	.	6	9		
		2	5	.	2			
+		3	8	.				
	3	4	3	.	8	9		= 343.89

Therefore, the required answer is 343.89

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

Solution:

Given, Money spent for math book = ₹ 35.75

Money spent for science book = ₹ 32.60

Total money spent = ₹ 35.75 + ₹ 32.60 = ₹ 68.35

Hence, total money spent by Rashid is ₹ 68.35

3. Radhika's mother gave her ₹ 10.50 and her father gave her ₹ 15.80, find the total amount given to Radhika by the parents.

Solution:

Given, Money given by mother = ₹ 10.50

Money given by father = ₹ 15.80

Total money received by Radhika = ₹ 10.50 + ₹ 15.80 = ₹ 26.30

Hence, total money received by Radhika is ₹ 26.30

4. 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.

Solution:

We know that 1 mm = $\frac{1}{10}$ cm

Given, Cloth bought for shirt = 3 m 20 cm = 3.20 m

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

Total length of cloth bought by Nasreen = 3.20 + 2.05 = 5.25 m

Hence, the total length of cloth bought by Nasreen is 5.25 m

5. 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?

Solution:

We know that 1 m = $\frac{1}{1000}$ km

Given, 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 = 3.042 km

Hence, the total distance travelled by Naresh is 3.042 km

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

Solution:

We know that 1 m = $\frac{1}{1000}$ km

Given, 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 + 7.007 + 0.500 = 22.775 km

Hence, the total distance travelled by Sunita is 22.775 km

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

Solution:

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

Given, 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 + 2.020 + 10.850 = 18.270 kg

Hence, the total weight of Ravi's purchase = 18.270 kg

Exercise: 8.6

1. Subtract:

(a) ₹ 18.25 from ₹ 20.75

(b) 202.54 m from 250 m

(c) ₹ 5.36 from ₹ 8.40

(d) 2.051 km from 5.206 km

(e) 0.314 kg from 2.107 kg

Solution:

(a) Given, ₹ 18.25 from ₹ 20.75

$\therefore 20.75 - 18.25$

$$\begin{array}{r} 20.75 \\ -18.25 \\ \hline 02.50 \\ \hline = ₹2.50 \end{array}$$

Hence, the required answer is ₹2.50

(b) Given, 202.54 m from 250 m

$\therefore 250 - 202.54$

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

Hence, the required answer is 47.46 m

(c) Given, ₹ 5.36 from ₹ 8.40

∴ 8.40 – 5.36

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

Hence, the required answer is ₹ 3.04

(d) Given, 2.051 km from 5.206 km

∴ 5.206 – 2.051

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

Hence, the required answer is 3.155 km

(e) Given, 0.314 kg from 2.107 kg

∴ 2.107 – 0.314

$$\begin{array}{r} 2.107 \\ -0.314 \\ \hline 1.793 \\ \hline = 1.793 \text{ kg} \end{array}$$

Hence, the required answer is 1.793 kg

2. Find the value of:

(a) 9.756 – 6.28

(b) 21.05 – 15.27

(c) 18.5 – 6.79

(d) 11.6 – 9.847

Solution:

(a) Given, 9.756 – 6.28

$$\begin{array}{r} 9.756 \\ -6.28 \\ \hline 3.476 \\ \hline = 3.476 \end{array}$$

Hence, the required answer is 3.476

(b) Given, 21.05 – 15.27

$$\begin{array}{r} 21.05 \\ -15.27 \\ \hline 05.78 \\ \hline = 5.78 \end{array}$$

Hence, the required answer is 5.78

(c) Given, 18.5 – 6.79

$$\begin{array}{r} 18.50 \\ -\ 6.79 \\ \hline 11.71 \\ \hline = 11.71 \end{array}$$

Hence, the required answer is 11.71

(d) Given, 11.6 – 9.847

$$\begin{array}{r} 11.600 \\ -9.847 \\ \hline 1.753 \\ \hline = 1.753 \end{array}$$

Hence, the required answer is 1.753

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

Solution: Given,

Total amount given to shopkeeper = ₹50

Cost of book = ₹35.65

Amount left = ₹50.00 – ₹35.65

= ₹14.35

Hence, raju got back ₹14.35 from the shopkeeper.

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

Solution:

Given, Total money = ₹18.50

Cost of Ice-cream = ₹11.75

Amount left = ₹18.50 − ₹11.75

= ₹6.75

Therefore, rani has left with ₹6.75 now.

5. 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?

Solution:

We know 1 cm = $\frac{1}{100}$ m

Given, 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 = 15.55 m

Hence, 15.55 m of cloth is left with Tina.

6. 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?

Solution:

We know that 1 m = $\frac{1}{1000}$ km

Given, Total distance she travels = 20 km 50 m = 20.050 km

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

Distance travelled by auto=total distance – distance travelled by bus

Distance travelled by auto= 20.050 − 10.200 = 9.850 km

Therefore, 9.850 km distance travelled by auto.

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

Solution:

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

Given, Weight of onions = 3 kg 500 g = 3.500 kg

Weight of tomatoes = 2 kg 75g = 2.075 kg

Total weight of onions and tomatoes = 3.500 + 2.075 = 5.575 kg

Therefore, weight of potatoes is = 10.000 − 5.575 = 4.425 kg

Hence, the weight of potatoes is 4.425 kg.

♦♦♦